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ESSAY

ON

THE MEANS OF INSURANCE

AGAINST THE

CASUALTIES OF SICKNESS, DECREPITUDE,
AND MORTALITY:

COMPRISING

AN ARTICLE

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P R E F A C E.

AN impression of the annexed article was printed separately for private circulation soon after its publication in the year 1828. That impression has been long out of print, and the article is now reprinted in consequence of the increase of Benefit Societies and Sick Clubs, created by the operation of the Poor Law Amendment Act, having suggested to the writer the expediency of again endeavouring at this time to call attention to the general incompleteness of the tables of insurance, on the completeness of which the stability of all such provident institutions must mainly depend. The existing Government has made one important addition to the older provident institutions, by the establishment of Annuity Societies for the Labouring Classes. But much yet remains to be done for the advancement and proper security of such institutions. If the time of the writer had permitted, he would have endeavoured to show the importance of increasing the usefulness of Savings' Banks, and of giving to the labouring classes the like conveniences and securities in the application of their small amounts of savings that

the larger banks afford to the wealthier classes in the management of their capital. He would also have endeavoured to trace the effects of such contributions upon wages and the investment of capital. He was, however, utterly prevented doing more than to reprint the article with some corrections, and with the addition of such notes as he could easily make. Being fully convinced that much misery will be created by the failure of institutions founded on inadequate data, he felt that he would have been a party to future suffering if he did not do as much as was in his power to obviate it by endeavouring to recall attention to the subject.

Nearly all the notes are additions to this impression.

LONDON, *September* 12, 1836.

ARTICLE

ON THE MEANS OF INSURANCE.

- ART. V.—1. First Report from the Select Committee of the House of Commons on the Laws respecting Friendly Societies—July 1825.
2. Second Report on the same subject—June 1827.
3. A Treatise on Benefit or Friendly Societies, containing a statement of laws respecting these institutions; the probabilities of sickness, mortality, births, and other casualties; with practical instructions for the formation of Rates, and their general management. Read before the Mathematical Society of London. By JAMES MITCHELL, LL.D., F.S.A.E.—Richardson.
4. A View of the Rise and Progress of the Equitable Society, and of the Causes which have contributed to its success. To which are added, Remarks on some of the late misrepresentations respecting the rules and practice of the Society. By W. MORGAN, F.R.S., Actuary to the Equitable Society.
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AMONG the most important duties of a government intent upon the accomplishment of what some writers have stated to be its chief end, “security for the full enjoyment of life and property,” we should include the attainment of means to enable the community to provide, at the least expense, against the casualties of sickness and mortality, and to avert or dissipate those attendant evils by the apprehension of which life is embittered and impaired. Of those means the most readily attainable are, first, collections of complete information relative to the circumstances under which sickness arises, together with accurate accounts of the deaths consequent upon those circumstances; and, next, the formation of equitable tables of assurance for individual contribution, by which the evil effects of such events, when they do happen, will be mitigated, in proportion to the degree in which they are shared amongst large numbers. Accounts of this description, which perhaps at present a government alone has the power to obtain in the requisite degree of perfection, would form an invaluable acquisition to science, and would direct the public exertions in removing those circumstances which shorten life, and in promoting those under which it is found to attain its greatest and most happy duration. Our go-

vernment has hitherto paid little or no attention to this important subject, and has only concerned itself with such accounts as means of indirect taxation.

We shall not attempt to investigate the fairness of the terms on which the Assurance Companies deal with the public; we shall on this occasion concern ourselves as little as possible about such interests.* We propose to exhibit the present state of the information possessed relative to the casualties of sickness and mortality, and the conduct of the government respecting the departments of the public expenditure appropriated as means to diminish the evil effects of those casualties.

It is perhaps requisite we should call upon our readers to bear in mind the truisms, that the value of any table of sickness or mortality is proportionate to the extent and accuracy of the information obtained relative to the class of persons from the number of whose casualties it is formed; and that the degree in which such table is applicable to determine the number of casualties that may be expected to happen amongst another class of persons, must depend upon the similarity of the circumstances under which the two classes are placed.

Of the tables of mortality now in use, the oldest, and that which is most generally adopted, is called the Northampton table. It was formed by Dr. Price, from bills of mortality kept

* *All* the provisions for insurance, whether for rich or for poor, we think, demand the especial care of a good government. We believe that it is only by an enlightened and trustworthy government that the means for the purpose can be perfected. The means of insurance by Joint Stock Companies, though better perhaps than would have been instituted by the government whilst the whole subject was imperfectly understood, are too frequently defectively constructed, and managed with the view to narrow and immediate advantages,—to the life interests of paid directors and secretaries, rather than to the ultimate interests either of the shareholders or the security of the insured. It is to be feared that some of these offices admit indiscriminately bad lives upon inadequate terms; that speculations are made on various hidden contingencies to defeat even just claims: that the solvency of some of the companies is not well assured; and that, in others, the liabilities of the actual shareholders, as well as of all those who have ever been shareholders, are greater than they are ever made acquainted with. A large proportion of the Joint Stock Companies founded for the purpose of insurance have from time to time failed. It is to be feared that some of the existing companies are fraught with the elements of eventual ruin and extensive misery to families. We speak advisedly when we state that there are good grounds for a searching government investigation into the constitution and management of this class of institutions.

in the parish of All Saints, Northampton, during the years 1735 to 1780. This parish contained little more than half the number of inhabitants of Northampton. A table formed upon the casualties happening to such a proportion might have been applicable to determine the chances of mortality in that town, provided that the parish of All Saints was not inhabited exclusively or disproportionately by rich or by poor; and provided also that the population was stationary during the period included in the returns, which there is evidence to prove was not the case. But a table formed on so narrow a basis as that afforded by half the population of a small town is obviously inapplicable to determine (of itself) the chances of mortality amongst the general population of the kingdom. This, however, is the table adopted by most of the Assurance Offices, as the one on which they depend in the insurance of lives of the middle or wealthier classes.

The next table, or set of tables, called the Swedish, was constructed in a very satisfactory manner upon returns carefully collected in the years 1755 to 1776, from the whole population of Sweden and Finland. These tables have been corrected by others, deduced with equal care from other returns, officially compiled during the years from 1775 to 1795, and from 1801 to 1805. These tables may be trusted, as accurately exhibiting the chances of mortality amongst the whole population of the two countries, but not the relative chances amongst the different classes of that population. But the climate and soil of those countries, the alternations of good and bad crops, the severe and rapid changes of the seasons, and the other circumstances influencing health and longevity under which the Swedes were placed, differed so greatly from the circumstances of this country, as to render this set of tables, if unaided by other evidence, insufficient for the determination of the average mortality amongst our population.

The third table, or rather set of tables, is that formed in France by Monsieur de Parcieux; of which set, one table was calculated from the mortality found to prevail (mostly during the years from 1689 to 1696) amongst the nominees of the French Tontine; four were formed from the registers of deaths among the monks of four monastic orders in Paris; and the sixth table,

which was the first ever calculated separately to show the duration of female life, was formed from the registered deaths of the nuns in Paris. Each of these tables was deduced from the casualties happening amongst classes of select lives, differently circumstanced from the general population of France, and therefore bad, as data, for shewing the probable mortality amongst that population, and still worse for the purpose of estimating mortality amongst the population of this country, which probably differs in its circumstances more widely from the monks and nuns of the old French regime, than did the general population of that country at that period.

The next, called the Carlisle table, was formed from the results of observations made during the years from 1779 to 1787, upon a population of eight thousand persons in the town of Carlisle. The facts were carefully collected by Dr. Heysham, and the calculations founded upon them accurately conducted by Mr. Milne. A basis of observations upon eight thousand persons is evidently too small to form tables applicable to the whole kingdom; and the period of nine years, during which the observations were made, as it might have been attended by a greater degree of good or bad health than usual, was far too short to form a correct average, even with regard to that town.

These were the tables in most general use before the appointment of a Committee of the House of Commons in 1825, to inquire into the general management of Benefit Societies. The chief presumption (and in the absence of other evidence it must be admitted as a strong one) in favour of these tables, as representing the average mortality amongst the population of this country, was the degree in which they corresponded with each other, though formed independently. The Northampton table is the one adopted by the greater number of the Assurance Offices for the purpose of assuring to persons the payment of certain sums of money on the deaths of other persons. This was the table strongly recommended to the Committee as the best adapted to shew the average mortality among the whole population; and as peculiarly applicable to govern the assurances against risks among the labouring classes, by whom chiefly the Benefit Societies are formed,—it being on the safe side; that is, not representing the duration of life too favourably, so as to call for premiums too low to cover the risks incurred—too

low to ensure the stability and prosperity of the establishments. The witnesses in favour of this table were the practical men, extensively conversant with the business of assuring against such contingencies. They urged that Dr. Price had corrected this table by information which he had collected of the casualties in other towns, and that its general applicability was confirmed by subsequent experience.

Opposed to these witnesses were several others equally eminent, who not questioning the correct formation of the Northampton table, or its applicability to display the probable length of life at the time when it was made, contended that the duration of life had since increased, and was now far greater than the Northampton table represented.

The theory which the latter class of witnesses maintained of the increased duration of human life has for several years past gained ground; and it appears to us that strong *primâ facie* evidence may be adduced in its favour, independently of any proof derived from population returns or mortuary registers.

Dr. Price laid down the position, that mortality invariably follows the rate of sickness; or, in other words, that mortality is always proportionate to the causes of mortality. Persons of age and observation bear testimony, that a great improvement has taken place in the general mode of living among the people of this country even within the last twenty years. The higher classes are acknowledged to be much more temperate—less addicted to those gross sensual excesses which characterise a people who, in the earlier stages of civilization, are not aware of the pleasures to be derived from useful pursuits, and who have few intellectual amusements as a resource against ennui, “the disease of unfurnished minds.” The vice of hard drinking is no longer fashionable; and he who should now seek distinction as a six, or even as a four bottle man, would be classed with those persons of humble station and more limited means, who are occasionally celebrated in the newspapers by the announcement of such exploits as eating a whole leg of mutton, and a proportionate quantity of candles by way of dessert. The physical condition of the aristocracy has been greatly improved; partly, doubtless, by their better habits, and partly by their plebeian alliances, and obedience to the general law of nature which is found effectual for the improvement of the lower animals. The

satire of Swift is only applicable to by-gone times. A lord, if an Hidalgo of the “true-blue Castilian blood,” is no longer known by his spindle shanks, as in the days of Fielding, and the younger of the aristocracy are in general taller and better made than their parents.

The habits of the labouring classes have (as was stated in evidence before the Committees of the House of Commons which sat in the years 1816 and 1817, to inquire into the police of the metropolis) undergone considerable improvement within the same period. It must be admitted that the reduced circumstances of some classes of workmen militate against this position ; but there are very few of them who have not been sustained, and even advanced in condition, by a better application even of diminished means. They have gained somewhat in knowledge, in habits of various and more temperate enjoyment, and have in the same proportion been recovered from that tyrannical control of single appetites and passions, from that propensity to seize with avidity and to use without restraint the means of immediate gratification, which distinguishes all ignorant people of whatever rank. The sailor when he returns from a voyage, the ill-educated heir to an estate when he becomes of age, and the workman who by three days’ labour obtains enough to maintain him in idleness and dissipation during the remainder of the week, are influenced by very much the same class of motives. The most decisive and gratifying proof of the improvement taking place in the habits of the labouring classes, is the increase of Benefit Societies and other institutions directed to the same end, which before the middle of the last century were scarcely known. It appears from returns made to Parliament, and cited in the Report before us, that so early as 1802 there were no fewer than nine thousand six hundred and seventy-two Friendly Societies, and that in 1815 the members of these institutions in England alone were enumerated at nine hundred and twenty-five thousand four hundred and twenty-nine. In Scotland the numbers in proportion to the population were still more considerable ; and in both countries they have subsequently much increased. We may add also, that during the last year (1827,) the deposits in the Savings Banks amounted to upwards of sixteen millions of money. Of this sum a large proportion, though not probably so large as is generally supposed, consists of deposits from mechanics and

other labouring men. The prosperity of these institutions is gratifying, as affording evidence that large classes of the labouring community possess surplus means beyond what are requisite to procure them the necessaries of life ;—it is cheering, as indicating the growth of improved habits of foresight and self-restraint, which must exercise an important moral influence over all their actions and relations in society.*

Considerable improvements have taken place in the domestic habits of artisans : they are less filthy and irregular, their houses are better constructed, they have acquired some notion that fresh air is conducive to health, and the streets where they reside are less filthy and pestilential than formerly. When to this enumeration of the causes of diminution in the amount of mortality are added the extensive reductions which must be occasioned by vaccination, less injurious nursing in infancy, and improved medical treatment, enough of classes of particular facts have been indicated to sustain the general conclusion, that were we to admit that the condition of several classes may have been deteriorated, the sum of improvement in the entire community will be found to preponderate considerably.

The opinion, that the value of life had improved, was, until the last year or two, treated as a “mere theory;” by which term of derision was meant an hypothesis or doubtful speculation, and the supporters of it were of course viewed as men whose opinions might be listened to, but ought not to be carried

* A philosophical writer characterizes the great progress of these institutions as “one of the most striking manifestations of virtue that ever was made by any people.” He observes, that “For persons merged in poverty, and totally deprived of education, as the English population heretofore have so generally been, it is not easy or common to have much of foresight, or much of that self-command which is necessary to draw upon the gratifications of the present for those of a distant day. When a people thus situated have a provision made for them, to which they can, with certainty, have recourse, as often as they themselves are deprived of the means of earning their own subsistence ; and yet, notwithstanding this security, choose to form themselves almost universally into Benefit Societies, in order that, by taking something from the means of their present scanty enjoyments, they may in sickness, disablement, and old age, be saved from the necessity of having recourse to public charity, and may continue to live to the end of their days upon the fruit of their own labour, no burthen to the public, or dependant upon its bounty ; they exhibit a combination of qualities, the existence of which could hardly be credited if it were not seen ; above all, in a country in which the higher ranks too often display an eager desire to benefit themselves at the public expense.”—*Sup. Ency. Brit.*, Art. *Benefit Societies*, p. 263.

into practice. A minority of witnesses, who, as actuaries, practically conversant with the tables of mortality, came under the denomination of “practical men,” being of opinion that there was no foundation for the theory, their evidence held the Committee *in dubio* during the first year of its sitting. Before we give any specimens of the opinions received from these witnesses, and treated as evidence by the Committee, we shall offer a few general observations on the value of the opinions of average “practical men,” on all questions of change or improvement.

The common reliance on the testimony of this class of witnesses is founded upon an assumption, that those who have been long engaged in a particular pursuit must necessarily have obtained, or at least are most likely to possess, the whole of the existing knowledge relative to that pursuit, and must, therefore, be the most competent to form a correct estimate of it, in all its bearings. This assumption of completeness of information, as predicated of the whole class of practical men, is untenable. By nothing are they so much distinguished, as by their indifference to the progress and result of any investigations which may be carried on relative to that pursuit, and to the utility of any new facts that may be elicited with respect to it. Thus the chief practical man examined as a witness before the Committee was asked,

‘Do you know of any actual observation or collection of facts subsequent to the final adoption of the Northampton tables by Dr. Price, whereby those tables have been confirmed?—To which he answered, “I know of none since the year 1791, that was the time in which he died. He proved the tables made at Holy Cross, and at Chester, and at Warrington, and compared them with those of Breslaw. Chester is the best town for making observations, for it is a town where the inhabitants, at the time Dr. Price formed his tables, neither decreased nor increased much.’

He was then examined in the following manner:—

‘Are you acquainted with the table published by Mr. Francis Baily, shewing the number of persons living at the several ages according to the observations at London, Stockholm, Chester, and other places?—No; I know nothing of the table.’

‘Are you acquainted with a table published by Corboux of the same nature?—I never heard of him: there was a Swedish table published by Mr. Baily, but that, I “believe,” is nearly the same with that given by Dr. Price for males and females.’

Ask, in like manner, the practical agriculturist, the practical merchant, or the practical tradesman, about any book relating

to his avocation, which furnishes new facts, or presents the old facts in better method and order for practical purposes, and you will find him equally ignorant and careless on the subject. It is obvious that the practical man whom we have just cited had made up his bundle of opinions in 1791, and did not care to open it for the purpose of substituting in the place of those which were old and rotten, others that were new and sound. Since the Northampton table worked well for him, produced to himself a good salary, and to the parties for whom he acted a good bonus, what motive had he to investigate? What mattered it, whether or not the circumstances of society had been altered and the duration of life extended since 1791? Thus it will be found, in the great majority of cases, that, the routine of practical men being given, you have the whole of their information relative to their avocations. To their indifference to the reception of any new facts, and the consequent incompleteness of their information for any practical purpose, may be added their incompetency to weigh evidence, free from the bias, in most cases of direct monied interest; and in nearly all cases, of the interest arising from the loss of reputation which would be incurred by acknowledging that others were in possession of superior information, or were capable of making a better application than themselves of the information already possessed: while all experience proves that even the interest occasioned by the disinclination to change old habits is of itself sufficient to counteract a considerable monied interest, when that interest is not immediate and obvious to the senses. “The great bulk of mankind,” observes Paley, “act more from habit than reflection;” and most especially must this be the case during the prevalence of systems of education which perform by the memory alone, all which the memory alone can be made to perform,—which teach everything by rote, nothing by reference to first principles. Under the evil influence of the habit of parrotting, which is acquired under a common education, almost every person is taught his avocation according to fixed rules, and is made to believe that the existing practice, whatever it be, is the best possible. Before he has time to form an opinion for himself, the associations and belief chosen for him by others become so strongly impressed on his mind by habit, as in a great measure to destroy his power of forming, or even of en-

tertaining, any new combinations on the subject. Hence, perhaps, it is, that the most important improvements in the arts and sciences have been made, not by the “regularly-educated practical men,” but by persons trained up to other pursuits. The greatest improvements in agriculture have been made by persons bred up in cities. The best laws are made by persons who are not practical lawyers. The same causes will, perhaps, account for the circumstance so frequently observed, that whenever a man of superior mind arises, the last thing benefited by the exercise of his powers of invention will be the pursuit to which he was “regularly educated.” As an instance of the operation of the causes to which we have alluded so often, incapacitating men of extensive practice, and even of something more than mere routine, from forming a conception of any change or improvement, we may mention the recent case of Sir James Scarlett. It may be recollected, that a short time ago, a complaint was made in Parliament that the fees extorted from prisoners at the sessions were so considerable, that the court and jury, from motives of compassion, conspired to convict a poor man in order that he might be fined a shilling and be discharged from further payments. Sir James Scarlett hereupon rose: he candidly admitted and lamented the existence of the evil, but declared (and we fully believe in the sincerity of the declaration) that he could not see how it could be remedied! Mr. Peel ventured to say, in reply to the greatest of practical lawyers, that he humbly conceived the evil might be remedied by *abolishing the fees*. We have heard of another practical man, of the same class, who, on hearing that in Holland no distinction was made between real and personal property, expressed his extreme surprise at such deplorable barbarism, and wondered how society could hold together without such a classification. He could form no conception of a state of things, in which the secure possession of an estate could be conveyed with as little expense or trouble as the least important article in daily use. Such a “practical man” is about as competent to judge of the work of codification, or the substitution of any well systematised body of laws for the incongruous jumble in the administration of which he is practised, as a well practised hackney-coachman or chairman would, from his practice, be fitted to judge of a comprehensive

plan of direct and convenient streets, devised by a Sir Christopher Wren for the rebuilding of an old, ill-built, confused city, or even part of a city, with the obscure turns of which, its barbarous names, and the slang and usages of the frequenters, the said practical men were familiar. Such men are useful, and often meritorious, in their proper places ; which are neither in the Legislature, nor, we make bold to say, on the Bench. Such men may suggest the straightening of an awkward turn ; the stopping up of a hole in which they are themselves jolted ; or the removal of a wall against which they run their own heads ; but the formation of new, plain, and direct roads, and especially any great convenience or magnificent simplicity of combinations, are as much beyond their comprehensions as they are foreign to their habits. From such minds comprehensive legislation or decisions upon enlarged principles never did and never will proceed. Other similar illustrations will present themselves to every observing person in almost every field of art or science, and not the least frequently in the fields of practical statesmanship. How rarely is it that the official or practical legislator condescends, in dealing with the subject matter of any legislation in England, to consult the experience even of another of the United Kingdoms, much less the experience of any of the European nations, on the same subject ! When do we see any of the masterpieces of foreign legislation referred to in our Parliament, although they would afford the most valuable instruction ? The report, for example, of Michel St. Fargeau, on the Penal Code, presented to the Constituant Assembly in 1791, and even the debate which then ensued upon it, may be submitted as a contrast to *every* state paper, and to the display of knowledge made on the same subject, during any session of the English Parliament, from the same period to the present day. The legislation of the great majority of our rulers, who lift their heads aloft above instruction,—who praise their own groping in the dark under the name of practice, and abuse as “ theory and speculation ” all attempts to act upon extended knowledge and aforethought,—is a scene of continual fumbling and botches ; of amendments upon amendments, often producing new evils, and aggravating the evils which they were intended to remedy. The legislation upon prison discipline, upon secondary punishments, and upon the “ the licensing systems,” might be ad-

duced in illustration of the assertion. The object of the more consummate of these official and practical statesmen would seem to be, not “to commit themselves:” *i. e.* to do nothing; or to evade difficulties neatly and speciously, and cover with pomp or a bland routine the *dolce far niente* of office; averting their heads from calamities so long as they are unnoticed, and letting evil principles work themselves out on the community, unless they are forced into notice by clamour. The best of the practical men of routine are those whose pride slumbers, who are not roused to resist amendments proposed by others, and who merely follow as rules of office the old monk’s rules of life, *Fungi officio taliter qualiter. Semper benedicite domini priori*, or *Nunquam male loqui de superioribus. Sinere insanum mundum vadere quo vult—nam vult vadere quo vult.**

The great crime of the class of practical men, is their dishonest dealing with evidence; shutting their ears to it, and when it is forced upon their perception, depreciating it, conjuring up fictitious obstacles, and exaggerating the force of real ones. When any measure constituting a change is presented to such minds, the question usually asked is not, “Is the evidence in support of it sound and complete?” but, “What shall I gain or lose by admitting it? shall I not testify to another’s superiority?” Persons, indeed, who devise measures, and who are not trained in the investigation and application of evidence, commit the faults of omission from over-eagerness or want of skill, or from an extent of ignorance or folly equalling that of the men of mere routine. Nor is it to be overlooked, that in devising measures which, though consisting of many particulars, are well founded in the main principles, the theorist is apt to overlook important details which are familiar to the practical man. Thus it is related, that when one of the great inventors of the machinery which has served as the foundation of so much of the national prosperity had constructed one of his most important and complex machines, in full confidence in the soundness and completeness of the inductions upon

* Get through your business in a way or so as to excite no complaint. Always admire and praise everything done by your superiors in office or party, and only see merit in those by whom they are likely to be ousted. Receive your salary quietly, and then get yourself into no troublesome opposition, but let the mad world go on as it will go; for it always will go as it will go.

which he had formed it, he assembled all his friends to see it start. The power was applied, but lo ! the machine could not be got to move. A shrewd practical man who was present declared that he could make the machine work, and would do so provided he received a share of the profits. The inventor was but too happy to assent to anything which would enable him to see the machine work. The practical man, however, would not move until he had the security for a share of the profits signed and sealed. The parties retired to a counting-house to accomplish this ; and when he had the document in his possession which secured to him a fortune, he returned to the scene, took from his pocket a piece of chalk, with which he rubbed one roller to prevent the fibres of the cotton from adhering to it, and the vast machine worked completely and successfully. When Winsor, the inventor of the mode of lighting cities, promulgated his plan for a joint stock company with the promise of enormous profits, it was covered with ridicule as wild and visionary ; but the plan was in the main sound, excepting that he had inadvertently overlooked as an incidental and minor item the expense of *pipes* !

Whilst some “practical men” adhere closely to their evidence, and coincide with the sound theorist in eschewing the wild hypotheses, or hasty generalizations, miscalled theories, and nevertheless appreciate the conclusions obtained by diligent investigation, and the sagacious comparison of a variety of phenomena ; it is to be observed of the greater part of those empirical persons, who laud themselves as practical, that they are of all others the most infected with rash and baseless speculations. If our space permitted we could give many illustrations of the truth of the remark of Dugald Stewart, “that the simplest narrative of the most illiterate observer involves more or less of hypothesis ; nay, that in general it will be found, that in proportion to his ignorance the greater is the number of conjectural principles involved in his statements.” As, he observes, “a village apothecary (and if possible, in a still greater degree, an experienced nurse) is seldom able to describe the plainest case without employing a phraseology of which every word is a theory,” (or an hypothesis,) “whereas a simple and genuine specification of the phenomena which mark a particular disease,—a specification unsophisticated by fancy or preconceived opinions, may be re-

garded as unequivocal evidence of a mind trained by long and successful study to the most difficult of all arts, that of the faithful interpretation of nature."

On the whole, it may be laid down as a general rule, that unless the mind of a practical man has been trained to habits of generalising beyond the details of his profession, his conclusion as to the effect of any extensive change in his practice is less to be relied upon than that of any other man of equal general intelligence, to whose mind *the same facts* are presented, and who gives them an equal degree of consideration. Yet, it is the evidence of this class of practical men which, in all questions of change and improvement, governs the opinions of our legislators and of a large portion of the public. It is important to have the real value of such evidence better understood; and for this purpose we have digressed thus far, to avail ourselves of some illustrations presented by the reports before us. If the general observations are found to apply to the evidence of practical men whose avocations are of a more intellectual nature, *à fortiori* will they apply to those engaged in ordinary pursuits.*

* The whole subject of the administration of the poor laws is replete with illustrations of pseudo practical statesmanship, and of the states of the practical minds of the country. The new measures are founded on inquiries so much more extensive, and on inductions from facts so much more numerous and various, than it has hitherto been the practice to require for legislative measures, that if any of them fail, the failure may confidently be pronounced to be the fault of those who are charged with their execution. Yet the exposition of the results was hurried, unavoidably perhaps, by the Government, and was therefore deficient in the completeness attainable, had circumstances permitted an extension of the period of the labour being from a few months to a year. We shall submit from this inquiry a few illustrations of the state of mind of the practical men concerned in that branch of administration.

'I have,' says Mr. Chadwick, in his report, 'endeavoured to ascertain from several of the magistrates who are advocates for the allowance system, or for the regulation of wages, in what way the labouring man within their districts expends for his maintenance the sum which they have declared to be the minimum expenditure, to sustain life? Some of these gentlemen admitted that they did not know; others stated that they laid it down as a general rule, that a labouring man must have bread and meat; but whether three or four loaves of bread, whether a pound or a pound and a half of meat, constituted the least quantity requisite as food for a given period, none of them could state. Several promised to make inquiries on the subject, when I asked them how they could safely set aside the decisions of the parish officers, or determine with due precision what was the minimum allowance of money for the pauper's subsistence, unless they knew how many commodities were absolute necessities for him, and the exact quantity and the price of each.'

The practical men whose evidence supported the doctrine that the duration of life has not been extended since the time of the formation of the Northampton tables, were Mr. W. Morgan, the actuary of the Equitable Insurance Company, which is the most wealthy and extensive institution of the kind in Europe; Mr. W. Glenny, the secretary to numerous benefit societies and insurance companies for the labouring classes; and Mr. W. Friend, the actuary of the Rock Life Insurance Company. We shall extract some portions of the evidence given by the two latter witnesses, and with only slight observation leave them to the reader's judgment. But the former deserves a more special notice, since his opinions, from the circumstance of his enjoying a more extensive practice than any other man, have obtained a degree of weight that entitles him to the distinction of being presented as the specimen *par excellence* of the "practical man."

Mr. Friend's evidence is to this effect:—

‘Do you apprehend that, since the Northampton tables were formed, the value of human life has increased?—No, I do not; there may be a difference in the higher classes, but I cannot say that I conceive the general notion that it is so is correct.

‘Whilst complaining of the effects of the beer-shops established under Mr. Goulburn's Act, the same magistrates have frequently stated that habits of drunkenness prevailed with the whole of the labourers within their districts, and that these labourers were accustomed to carouse during one or two days in the week, gambling and indulging in the most vicious habits. Having received evidence that so large a proportion of the agricultural poor-rate is expended in aid of wages, I have been startled by the declarations that the habits of dissipation had become so prevalent. In answer to further inquiries, I have received assurances that the habit is *general*; that there are few, if any, exceptions. I have again asked whether the exceptions are formed of those who received parochial relief, and I have been assured (and satisfactory evidence has been adduced to me), that the agricultural labourers receiving poor's-rates in aid of wages are to be found at the beer-shops as frequently at least as the independent labourers. The questions which have appeared to me naturally to follow are, — Do you consider beer or gin a necessary of life to the paupers? If it be admitted that beer is a necessary of life to the independent labourers, the quantity required for intoxication can hardly be necessary; ought you not then to ascertain and deduct the amount of money spent in drunken revelry? As it must be presumed that a man pays for the beer he drinks at the beer-shops, (which beer is not deemed absolutely necessary for his subsistence,) is it not clear that you have not arrived at the minimum allowance? If, for example, you order wages to be made up to a man to the amount of nine shillings a week, and you find that he gets drunk one or two days in the week, and that his excess of drink costs him two shillings a week, since he actually lives on seven shillings a week, does he not prove by so living that seven is all that he really requires?’

‘So far as I have been able to examine the answers to the query circu-

‘Are the Committee to understand that it is not your opinion, that among any but the higher classes the life of a man of twenty is more valuable than it was, or than it was estimated to be,

lated by his Majesty’s Commissioners, whether the family of a labouring man in full work could lay by anything? it appears that a great majority of the respondents state positively that the labouring man cannot save anything. About half the respondents from Devonshire make no answer to the query. W. J. Coppard, the minister of Plympton, St. Mary’s, says, “*A few* have trifling sums in the savings-bank.” The other respondents either express a strong doubt whether anything could be saved by a labouring man, or declare positively that he could lay by nothing; yet we find upwards of 70,000*l.* saved, under all obstacles, by two thousand labourers, or by one out of every ten heads of agricultural labourers’ families in this same county.

‘The larger proportion of the magistrates, clergymen, and parish officers who are respondents from Berkshire, declare that the labourer could not save; only three or four indicate a belief that he could. Colonel Page, who is one of the trustees of the savings-bank at Newbury, says, “Hard to answer.” Yet in the bank of which he was a trustee, were found 593 agricultural labourers depositors of an aggregate of savings to the amount of 6,500*l.*’

‘About thirty labourers in the metropolis, when interrogated by the governor of the Cold-Bath Fields House of Correction, stated that they could live on 1*s.* a day. Labourers and others, earning such wages as 2*s.* per day, are found to be depositors in the savings-banks of the metropolis. The following are the statements of some of the respondents (clergymen and gentlemen serving parochial offices in the metropolis) to Queries 35, 36, 37, 38—What can a family earn, and whether they can live on these earnings and lay by anything?

‘The answer from Chiswick states that a family might earn 49*l.* per annum, on which they might live, but could not save. St. Anne and Agnes, and St. Leonard, Foster-lane—family might earn 60*l.*; could not live on it. St. Botolph Without, Aldersgate—family might earn 63*l.* 18*s.* on which they might subsist, but could save nothing. Mile End, New Town, and St. Mary’s, Somerest, City of London—family might earn 65*l.* on which they might live, but could not save anything. St. Leonard, Eastcheap—family might earn 78*l.*; could not save, and cannot ascertain whether they could live upon it. St. James’s, Westminster—man might earn 78*l.*, besides material assistance from his wife and children; might live on wholesome food, but cannot attempt to say whether they could save. Holy Trinity the Less—family might earn 93*l.*; might live on spare diet; could not save anything. Mr. Baker, the coroner and vestry clerk of St. Anne’s, Limehouse, states that a family might earn 100*l.*, on which they could live, but *not* save. Hammersmith—a family might earn 49*l.* 8*s.*, which would give them wholesome food, and they might and *do* save.

‘The extract I have given will, perhaps, suffice as a portion of the evidence tending to show the state of information on which rates of wages are determined, and adjudications are made on appeals against the allowances of parish officers. But on the part of those parish officers who come more immediately in contact with the labouring classes, and have the means of obtaining better information to determine as to the absolute necessity of the relief, I commonly found, in the districts where the allowance system prevails, that they were daily acting in the teeth of conclusive evidence, constantly obtruded on their notice. At Newbury, for instance, on examining the books in the presence of the assembled parish officers, I found that they gave relief in aid of wages.

twenty years ago?—If I am asked that as a matter of opinion, it must be matter of opinion merely. I very much suspect, that it is not a whit better: I rather think the calculation comes very near—

The officers expressed a decided opinion that it was impossible for labourers of that class to subsist without such assistance as they received from the parish. The following is an extract from my notes of the examination of these same officers:—

“Are those whose names appear in the books as persons receiving relief in aid of wages, all the labourers of this class or of those conditions residing within the town?”—The parish officers declared that they were only as a minority of those in the town. [Colonel Page, who did me the favour to assist me in the inquiry, observed that they did not probably form more than one-tenth of all the labourers in the parish.]

“Do the rest of the labourers receive no higher wages than those who obtain parochial relief?—We believe that their wages are the same.”

“Amongst the large class of labourers who do not come for relief, is there not the usual proportion of married men, and many with large families?—Yes, we know there is.”

“And yet, working at the same description of work and receiving no higher wages than the others, they maintain their families without asking aid of the parish?—Yes, they do do it, but how they do it we cannot tell. They are above coming to the parish.”

“Is not the fact that these independent labourers *do* live without receiving relief in aid of wages, any proof to your minds that others *may* live without rates in aid of wages? Is not the occurrence of the fact before you any evidence of its possibility?”

‘To this interrogatory I received no answer; and I passed on to another head of inquiry.’

These, be it observed, are not exemplifications of the states of mind of individuals, but of *classes*, with respect to the plainest operations of which they may be presumed to be capable of judging. The following is an individual exemplification from the evidence given by a practical witness, a farmer and an appraiser of land, produced by the Marquis of Chandos, before the Committee which recently sat to inquire into the causes of agricultural distress. The witness had ascribed the fall of the price of wheat to the reduction of the duty in foreign corn. The witness was asked—

‘Do you recollect the alteration of the Corn Laws in 1815?—1815 was the time when it was reduced under Lord Castlereagh, and the prohibition was reduced from 80s. to 70s. It was in 1822 the protecting duty was diminished?—Yes. Do you remember that wheat was very low in 1822?—Yes. Do you remember its rising in 1823, 1824, and 1825?—Yes. Notwithstanding the reduction in the duty?—Yes; I know it *rose* in price.—The reduction in the duty could not very well have produced a *fall* in price, for the price *rose* in the three succeeding years?—I have understood it from the newspapers, that there were ten millions of foreign corn imported into England in one year. Supposing that were to be the fact according to the returns, it would not have tended to depress the market in 1822?—I think it would. Then, if by the Corn Law of 1822, the rate of duty was diminished upon the importation of corn, and the price immediately *rose* for three years succeeding, that reduction of the duty could hardly be said to be the cause of the *fall* in price?—I consider that the extremely low price *was* produced by the amazing quantity of foreign corn brought into the English markets. There was none brought in 1822: there was some brought in in 1819?—I recollect one year in which it was stated there were ten millions worth of foreign corn brought into England, but I do not recollect the year.’

ly to the same point. As to the general measure of human life, that it is not materially altered, no tables whatever can be formed that are accurate; for our tables end at the age of ninety-six, whereas we know every year that people live beyond an hundred; therefore it is clear that no tables which human ingenuity can devise come exactly to accuracy; but it is luckily like the property of the asymptote, it comes near enough for practical purposes.'—*First Report*, p. 87.

We are bound to give the witness credit for sincerity even at the expense of his reputation for capacity; but had he intended to nonplus the hon. members, he could not have succeeded more completely. They did not put to him another question on this subject.

From Mr. Glenney the Committee received the following testimony:—

‘ Having yourself constructed tables in a great degree from actual observation, you are confirmed in the opinion that Dr. Price’s tables were correct?—The nearest to correctness.

‘ Do you not think that health has improved by the improvement of medical science since the time of Dr. Price?—Not much more in adults, but very much in children.

‘ Supposing that you have in one district an accurate table of mortality, and also an accurate table of the average of sickness; that in another district you have the table of mortality only, which I will suppose to differ considerably from the table of mortality in the other district; do you think, that by constructing a table of sickness in the latter district, bearing the same relation to the sickness table of the former as the mortality table in the second bears to that of the first, you would come to an accurate result?—No, I do not. I think it would depend so much upon other circumstances; it would depend so much upon the manufactures. In some trades the mortality is much more severe, and the sickness much lighter; and I have been much perplexed, in the course of nine years’ close observation, by these two results: my proceed-

The type of the genus of practical men, as opposed to theorists and innovators, may really be presented in a story of some Russian fruit-dealers, who had been accustomed, when they had sold the fruit out of one of the panniers with which their asses were laden, to put stones in the empty pannier to balance the one containing fruit. “ My good man,” said a gentleman to one of these personages, “ would you not save your beast much toil, and yourself some trouble, if, instead of filling the empty pannier with stones, you were simply to divide the apples and put half the contents of the full pannier into the other one?”—“ I do not know how that may be,” replied the practical man; “ but this is the way I have always done myself—this is the way my father did, and my grandfather, and my great-grandfather before them, and I won’t now call all of them, and myself too, fools by trying any of your new-fangled schemes.”

ings for the next five years, I hope, will obtain the results of the various large manufactures of this kingdom, as the only correct means of preparing a correct sickness table.

‘In what particular business have you observed the difference between mortality and sickness, that the mortality should be great and the sickness less?—I have found the gilders very subject to sickness, and I have not found that it materially shortens life.

‘What sort of sickness?—Chiefly debility arising from the mercury.

‘Do you not include painters?—Next to gilders, the casters in lead, and workers in lead of all descriptions, are more subject to sickness than to mortality comparatively. They have rheumatic pains; they have affections in the joints, and many disorders which prevent them periodically from following their business: hence they are turned out of most societies, or rather not admitted.

‘Is that the case with painters also?—I class them among workers of lead of every description. Watchmakers are very apt to be affected in the sight, and they also go into declines, and hang a long time on the funds, frequently without dying at a more early period than other men. Husbandmen are subject to much less sickness, I think, from the returns I have been able to procure, than almost any species of mechanic.

‘And do you not think they live longer also?—I think they do. In London there are an immense number of founderies, where they keep an immense number of men, and there they are subject to be laid on the funds by accident, yet they are not frequently accidents that kill them, so that they are thrown on the superannuated list early.

‘Do you not think human life lengthened from the improvement of medical science during the last twenty-five years?—No, I do not. I think the quantity of sickness lessened, but I do not think life lengthened.—Do you not apprehend that more children are reared?—Yes, certainly; so much so, that I have been for years trying to form a table to provide something for children during their minority, and I have been comparatively baffled by the difference of life in children within the last twelve or fourteen years, so that I have to go over the whole ground again. I should think the lives of children had increased a fifth, at least from my experience.’—*First Report.*

We shall not stop to examine how far the conclusion of the witness, that life has not lengthened, agrees with his admissions, that, since the Northampton table was formed, the health of adults has advanced a little, and the health of children has been improved very much, so that a greater number are now reared to maturity. With respect to the instances he adduced in support of the paradox, that sickness might increase and mortality yet remain stationary, it did not, perhaps, occur to the Committee

to inquire of the witness, whether the classes of debilitated men, whom he mentioned, would be likely to withstand, so well as healthy men, those casual diseases (not incidental to any avocation) to which all classes are exposed. That men may lose their sight without their general health being materially diminished—that the diminution of life from the effects of injuries which disable a man, and, in some degree, also debilitate his general health, may often be compensated by his exemption as a pensioner from the hard labour, wear and tear, and consequent loss of vitality incidental to his avocation,—no one will dispute ; but that a whole class may be debilitated by sickness without the duration of life amongst them being impaired, is an absurdity.* The operation of general causes of sickness on particular classes, and the diminution of a patient's chances of recovery in proportion to his previous debility, was strikingly illustrated in some returns from the hospitals at Paris, to which we shall hereafter advert.

We now come to Mr. Morgan, whose evidence on this point we shall extract.

‘ When examined before the Poor-laws Committee in 1817, you stated, that you had no reason to doubt that the tables published in the second volume of your edition of Dr. Price's work were still correct?—I found them correct, and I *do find* them correct.

‘ Have you any reason to believe that sickness has actually increased?—Not at all.

‘ Do you think it has diminished in consequence of the introduction of vaccination?—Most likely it has ; but the people admitted into these clubs are people from twenty to thirty years of age.

‘ We were speaking of sickness generally, not as relating to these clubs?—There may be more in some years than in others.

‘ Still you have taken it at a lower average?—Yes, I have.

‘ You find mortality greater, but not sickness?—Not sickness.

‘ Sickness and mortality, both, of course, vary among different classes of people?—Yes.

‘ Do you not apprehend that there are some classes in which sickness is more prevalent than in others, but where the lives of individuals are not shorter?—No, I do not think so.

‘ Are not some places more healthy than others?—They may be ; I know nothing about that.

‘ Are there not certain trades which afflict individuals with blindness without shortening their lives?—I do not know about that.’—*First Report*, p. 50.

* See note *post*, as to the sickness and mortality in gaols.

We shall say nothing as to the value of the testimony of this practical man, who ably and successfully superintends a mighty concern, with a capital of several millions of money, and yet is so ignorant beyond his routine, as not to know that there are some places more healthy than others. It is to be attributed to the want of skill in the Committee to examine witnesses, and the ignorance of honourable members as to the nature and importance of the points to which they ought to have directed the examination, that more definite answers were not elicited from this witness and others. But he has explicitly declared, as the result of his own practical experience, which we apprehend was wholly in his society (the Equitable), that Dr. Price's tables are still correct, and therefore that the average duration of life has remained stationary. Many of our readers, who do not take into account the little exercise of mind which practical men in general bestow on the facts under their own observation, will perhaps be somewhat surprised when we inform them, that from the facts within the experience of this witness, his conclusion has been demonstrated to be extremely erroneous. It appears, that he has been in the habit of making regular reports to the members of his institution, of the number of persons assured whose names appeared on their books, and of the numbers who died. Mr. Griffith Davies, the actuary of the Guardian Assurance Office, procured a complete series of these reports, and theorized the facts of the practical man; that is, "put the whole of the knowledge" which he (according to his reports) "possessed upon the subject into that order and form in which it is most easy to draw from it good practical rules." We have annexed a table, calculated by Dr. Mitchell from the practical man's facts, so theorized by Mr. Davies. According to the witnesses's evidence, or the Northampton tables, the probable duration of a life already at twenty, is 33·43 years; according to his facts, when theorized, its duration has extended to 41·05. A life at thirty, according to his testimony as a practical man, is of 28·27: according to the result of his reports, it is 33·97 years. A life of forty, according to Dr. Price, whose tables are stated in the evidence of Mr. Morgan to be still applicable, is 23·08 years in duration: but on this point alone, Mr. Morgan's facts prove them to be inapplicable by four years and a fraction, the value of life having been improved to

that extent. Mr. Babbage and Mr. Gompertz went over nearly the same facts, and, so far as they went, confirmed the correctness of Mr. Davies's theory.

We have considerable presumptive evidence in the superior habits of females, to support the conclusion that the duration of their lives is greater than those of males. Several men of extensive practice declared, however, that there was no material difference.

The Committee says to Mr. Glenny [*First Report*, p. 41],—

‘Then you make no distinction upon the ground of a supposed difference in the value between male and female life?—No: there are differences of opinion between calculators. The difference is so small; there is not a single consideration in the calculation of a table which is not of greater importance than that point.’

Mr. Baily is asked [*Second Report*, p. 27],—

‘Do you conceive that it is necessary to have a different rate of payment for males and for females to ensure the same object?—I should hardly think it worth while to perplex the subject with such a distinction. Have you paid any attention to the subject? I have occasionally. In the valuation of annuities, we generally reckon the females lives worth half a year's purchase more.’

And Mr. Morgan [*Second Report*, p. 45], says,—

‘The duration of life, in general, is a little better among females than among males; but, in my opinion, it is not sufficient to render it necessary to compute tables for them.’

These opinions are opposed, not only by the number, and, as we consider, weight, of opinions from other witnesses, but by the evidence of the Swedish tables, which shew the difference between male and female life to be very considerable. New returns were, however, now given to the Committee by Mr. Finlaison, the actuary of the National Debt Office, which established, beyond a doubt, the fact, that great improvement has taken place in the value of life amongst those classes respecting whom the best evidence was previously possessed. He also proved the superiority of the lives of females, as compared with the lives of males, to be very considerable. When he presented his tables to the Committee in 1825, he stated [*First Report*, p. 44],—*

* That those Insurance Companies which do not grant annuities should have been unwilling to admit that the lives of women were on the average longer than those of men, was to be expected, inasmuch as these companies obtained from the few insurances effected on the lives of women the same

‘It is now exactly six years ago since I was appointed by Government expressly for the purpose of investigating the true law of mortality which prevails among the people of England at the present time. I say, at the present time, because there has been, as I have discovered, a very extraordinary prolongation of human life in the course of the last hundred years. I also say, in either sex, because it has appeared, from the writings of former authors, that a great difference in the duration of life exists between the two sexes, and that that difference has never been accurately assigned. It was the more necessary to do this from authentic documents, because, heretofore, almost all the known tables are derived from parochial records, which are incapable of affording accurate deductions; therefore, by the aid of Government, I was enabled to make observations upon the life annuitants of various classes who have been registered as nominees in Tontines, or life annuities properly so called. I made an observation upon nearly twenty-five thousand people in that situation, during a period of more than thirty years, and the consequences resulting from that observation upon each sex will be shewn in a paper, which I beg leave to give in, containing the expectation of life as it is now, and as it was a century ago: the difference is very great upon each sex; the Committee will find it nearly as three to four. I mean, that the duration of existence now, compared with what it was a century ago, is as four to three in round numbers.’

In addition to the tables constructed upon the basis of the lives of Government annuitants who belong to the higher and middling classes, he calculated the mortality that prevailed during the years 1814 to 1822, amongst 50,682 out-pensioners on the books of Chelsea College, and 20,210 out-pensioners on

premiums as if effected on the lives of men. Some companies have, however, been induced by competition to make a distinction, and to advertise lower premiums on the lives of women than on the lives of men. On the other hand, increased sums are of course required for annuities on the lives of women. The Government was at last induced to yield to the evidence adduced by Mr. Finlaison; and in the tables now published, the price of annuities to women is considerably higher than for annuities to men.

In 1829 was printed Mr. Finlaison's report, containing all the elementary facts, of which the results only had been submitted to the Committee. The new tables were put in operation in November 1829. Last year (1835) these tables, and the conclusions of Mr. Griffith Davies and the theorists, have received corroboration from an unexpected quarter. The extensive and important experience of the Equitable Office has been published. At the age of 40, and at every higher age, the duration of life is stated to be just the same as that set forth in the Government tables. Below 40, the mortality is less in the Equitable than amongst the Government nominees. But the apparent reason is, that under 40 the Government observation is formed upon the nominees of the Tontines, enrolled in infancy; and it is alleged that as they grew up to man's estate, they went into tropical climates and into the wars in no small proportion. But the Insurance Office prohibits all this.

the books of Greenwich Hospital. These, he declares, were lives of the worst description. The great majority of them had come in under 45 years of age. They were either persons who had been wounded, or who had lived some time in unhealthy climates, and their claims for other causes than length of service must have been impaired constitutions. Yet the chances of these lives were at every age better than the chances given by the Northampton table, and after 50 as good as those given by the Carlisle tables.

The Committee obtained from Baron Delessert, the founder of the Philanthropic Society at Paris, extracts from the reports of “*Les Sociétés de Prévoyance, L’Annuaire, par Le Bureau des Longitudes,*” and “*Les Recherches Statistiques sur la Ville de Paris et le Département de la Seine.*” The returns thus obtained from France confirm, as far as they go, the theory that the value of life has improved with the improved habits and condition of the people. According to a document which the men of science in France treat as satisfactory evidence, it appears, that the annual deaths in Paris during the “age of Chivalry,” (the fourteenth century,) was one in sixteen or seventeen. During the seventeenth century, it was one in twenty-five or twenty-six; and in 1824, it was one in 32.62.* When the other parts of France were added to the capital, the proportion of deaths appeared still farther to have decreased; and, throughout the whole of France, the deaths during 1781 were one in twenty-nine. During the five years preceding 1825, it was one in thirty-nine. We have not the whole materials before us to enable us to determine accurately, but the total results prove, to the satisfaction of men of science on the other side of the Channel, that the value of life has doubled in France since “*le bon vieux tems,*” and gained nearly one third since the Revolution.

In this state was the evidence submitted before the first Committee in 1825. We have shewn the quality of nearly the whole of the opinions called evidence, adduced to support the

* From the table constructed by Dr. Price to exhibit the average mortality in London, [see *Observations on Reversionary Payments*, vol. ii. p. 305, 310,] it appears that during the ten years ending with 1780, one inhabitant out of $19\frac{3}{5}$ died annually. Mr. Milne has shown [Art. 755 of his treatise on Assurances], that in the ten years ending with 1810, there died in the metropolis, annually, one person in 34.19.

Northampton tables ; and we have described the nature of the evidence by which they were proved to represent the duration of life too unfavourably. It might be supposed that it could hardly have escaped the most careless and incompetent member of the Committee, that in proportion as the old tables represented the duration of life below the true rate, the public money was improvidently expended in granting annuities ; that is, in contracting, on consideration of the receipt of a given sum, to continue a certain annual payment so long as the grantee should live. It was matter of notoriety that Insurance Companies had grown extremely rich by the use of the old tables in the converse operation—that of assuring lives ; *i. e.* receiving an annuity during the life of an individual, on condition of paying a given sum at his death. It was then sufficiently well known, that these private companies would not grant annuities on the same terms as Government, or on the old tables ; obviously because they discovered that they would be losers by the transaction. These two facts alone made a case for stopping this source of public expenditure until inquiry could be made, and more satisfactory tables formed. The tables, however, now produced, proved beyond a doubt that the public money was expended at an enormous loss in granting annuities. We shall state one or two instances of the ruinous nature of these transactions.

On an average of the last hundred years, the price of three per cent. stock has been between seventy-nine and eighty. At that rate of interest, and the rate of mortality which, according to Mr. Finlaison, actually prevails among the Government annuitants, the annuity which ought to have been allowed on a life of sixty, for every 100*l.* sunk, was 8*l.* 10*s.* 7*d.* [*Vide Appendix to the Report of 1825*, p. 131] : whereas the annuity actually allowed on that age was 10*l.* 6*s.* 3*d.* for each 100*l.* sunk, making an absolute loss to the country of 1*l.* 15*s.* 8*d.* per cent. annually during the remainder of the life which was calculated at fifteen years' duration.—*Ibid. Appendix*, p. 125.

The deferred annuities were granted on still worse terms ; for on reference to the rate of interest, and tables of mortality, above alluded to, it may be seen that the value of 1*l.* annuity purchased by a person at the age of forty, but which he is not to begin to receive until the age of fifty, is above eight years' pur-

chase, or, in other words, that on such contingency the Government ought not to have granted above 12*l.* 10*s.* for every 100*l.* sunk ; whereas they gave 15*l.* 8*s.* per cent. making an absolute loss to the public of 2*l.* 18*s.* per cent. during the remainder of the life.

This expenditure, which had gone on for a series of years, was allowed to continue during two years more, though attention was strongly called to the subject.

In consequence of some observations which were made on Mr. Finlaison's tables, he went over the operation of theorizing the whole of his data a second time ; *i. e.* observing exactly the facts, “ to make a perfect collection of them ; nothing omitted that is of importance ; nothing included of none ; and to record them in that order and form in which all that is best to be done in practice can be most immediately and certainly perceived.” He performed this operation by new methods, and found the results to coincide in nearly every instance. The extreme difference between the two sets of tables in granting an annuity would be fifteen shillings in the hundred pounds. The difference between male and female lives he found to be very considerable in every period of life excepting in infancy (under ten years of age), and excepting also in extreme old age ; *e. g.* beyond eighty-five, when no distinction is perceptible in the returns. He states the general result of the comparison in these terms :—“ Supposing a mother were to leave a pension to her son ; the value of such a pension would only be two thirds of a pension left by a father to his daughter—the relative ages of the children and parents being precisely the same. It follows, therefore,” (and here let the reader refer to the testimony of those blind guides, the practical men,) “ that any society making no distinction of sex, and granting pensions to widows according to the strict arithmetical result, would inevitably be ruined.”—*Vide Second Report*, p. 57.

The Committee, it appears, in their Second Report, came to the conclusion that the evidence appeared “ strong and decisive” in favour of tables which gave “ an expectation of life higher than the Northampton,” and that there was “ not even a *primâ facie* case” in favour of the latter.—*Second Report*, p. 4.

Mr. John Naylor, speaking of Mr. Finlaison's table, says,

‘ I am inclined to believe it to be accurate, and for this reason ;

that with reference to the annuities calculated from this table, on male and female lives of course, the mean between male and female annuities would not give the proper annuity for lives in general, but still it would be sufficient for the purpose of comparison; and by comparing such annuities with the Carlisle tables, they are found to agree to a very surprising degree of exactness, especially from ten to fifty years of age. I have compared such annuities with De Parcieux's annuities, and also with Babbage's annuities, and with Davies's annuities, as deduced from what those gentlemen call the experience of the Equitable during the last fifty years; and from ten to fifty years of age the annuities agree with a surprising degree of exactness; and in consequence of the agreement of such annuities with annuities as deduced from the Carlisle tables, I am satisfied that Mr. Finlaison's calculations are correct.'—*Second Report*, p. 35.

Mr. Griffith Davies, and other actuaries, bear testimony to the superior value of Mr. Finlaison's tables to any others of which the public are in possession.

Mr. Naylor, when asked whether or not the rate of mortality had diminished in England, replied,

'I am decidedly of opinion that it has. This opinion is the result of several comparisons of the proportions of deaths to the numbers living at the same places at different times; from which I infer, that independently of the effects of vaccination, the mean duration of life has increased in England during the last fifty years.'—*Second Report*, p. 85.

Mr. Griffith Davies, on this point, gives evidence which we think worthy of particular attention.

'As another corroboration of the increased value of life within the last hundred years,' he says, 'I think, on examination of the different tables, the fruitfulness of women, say from the age of fifteen to fifty, will be found nearly the same at all periods; and, in the greater part, I believe, of the different countries of Europe that we have tables for, prior to the time when Dr. Price wrote, that degree of fruitfulness was scarcely adequate to compensate for the existing mortality; so that he strenuously argued that the population was decreasing in this country; and I believe that, supposing the documents he had to reason upon to be correct, the conclusion he drew was not so erroneous as it has been represented. It is not an increase of the number of births, as compared with the number of bearing women, that has increased the population, but the increased number of children that have been reared from the birth and passed through the several stages of life. In other words, I would observe, that about one hundred years back, if any dependance can be placed upon the registers, the number of annual births did not exceed the number of burials, and, as a conse-

quence, the population could not then have been on the increase. The increase of population since that period must, therefore, be attributed to an increase of fruitfulness of the female sex; to the effect of immigration; to a diminution of the rate of mortality; or to two or more of these causes combined. But as far as documentary evidence goes, it does not appear that the number of births has increased in comparison with the number of bearing women; and it is clear that the increase of population cannot be attributed to immigration, otherwise the number of burials must have increased with the number of births, which is contrary to the fact, as established on indisputable evidence; the increase of population must, therefore, be entirely attributable to a diminution of the rate of mortality.'—*Second Report*, p. 38.

The relative chances of the duration of life, as determined by the several tables of which we have treated, are thus displayed in the following table.—*See Table A.*

[TABLE A.]

Age.	Northampton.	Swedish.		Carlisle.	Equitable.	Government Annuitant	
		Male.	Female.			Male.	Female.
0	25.18	37.82	41.01	38.72		50.16	55.51
1	32.74	46.26	48.60	44.68		50.13	55.59
2	37.79	48.12	50.28	47.55		50.04	55.37
3	39.55	48.84	50.90	49.82		49.80	55.05
4	40.58	49.05	51.15	50.76		49.42	54.65
5	40.84	48.99	51.04	51.25		48.93	54.23
6	41.07	48.80	50.79	51.17		48.36	53.72
7	41.03	48.60	50.38	50.80		47.71	53.15
8	40.79	47.91	49.78	50.24		47.02	52.50
9	40.36	47.30	49.23	49.57		46.30	51.80
10	39.78	46.68	48.55	48.82	48.83	45.57	51.05
11	39.14	45.95	47.83	48.04	48.02	44.83	50.27
12	38.49	45.21	47.09	47.27	47.20	44.07	49.48
13	37.83	44.59	46.00	46.51	46.40	43.31	48.70
14	37.17	43.67	45.51	45.75	45.60	42.53	47.93
15	36.51	42.88	44.72	45.00	44.81	41.75	47.19
16	35.85	42.11	43.95	44.27	44.03	41.01	46.51
17	35.20	41.34	43.18	43.57	43.27	40.29	45.86
18	34.58	40.57	42.73	42.87	42.50	39.61	45.22
19	33.99	39.79	41.62	42.17	41.78	38.98	44.60
20	33.43	39.05	40.90	41.46	41.05	38.39	43.99
21	32.90	38.32	40.05	40.75	40.33	37.83	43.36
22	32.39	37.61	39.16	40.04	39.59	37.34	42.73
23	31.88	36.91	38.66	39.31	38.88	36.87	42.09
24	31.36	36.19	37.91	38.59	38.15	36.89	41.45
25	30.85	35.48	37.17	37.86	37.44	35.90	40.81
26	30.33	34.75	36.43	37.14	36.73	35.41	40.17

[TABLE A. *continued.*]

Age.	Northampton.	Swedish.		Carlisle.	Equitable.	GovernmentAnnuitant	
		Male.	Female.			Male.	Female.
27	29.82	34.68	35.69	36.41	36.02	34.86	39.52
28	29.30	33.30	34.96	35.69	35.23	34.31	38.87
29	28.79	32.57	34.22	35.00	34.65	33.75	38.22
30	28.27	31.85	33.49	34.34	33.97	33.17	37.57
31	27.76	31.12	32.77	33.60	33.30	32.59	36.91
32	27.24	30.39	32.04	33.03	32.64	32.00	36.26
33	26.72	29.66	31.33	32.36	31.98	31.40	35.61
34	26.20	29.07	30.61	31.68	31.32	30.79	34.96
35	25.68	28.20	29.90	31.00	30.66	30.17	34.31
36	25.16	27.48	29.19	30.32	30.00	29.54	33.68
37	24.64	26.75	28.48	29.64	29.35	28.91	33.04
38	24.12	26.03	27.77	28.96	28.70	28.28	32.40
39	23.60	25.32	27.26	28.28	28.05	27.65	31.76
40	23.08	24.62	26.35	27.61	27.39	27.02	31.12
41	22.56	23.93	25.65	26.97	26.74	26.39	30.46
42	22.04	23.24	24.97	26.34	26.08	25.74	29.81
43	21.54	22.56	24.47	25.71	25.40	25.08	29.14
44	21.03	21.87	23.61	25.09	24.75	24.42	28.48
45	20.52	21.18	22.92	24.46	24.09	23.75	27.81
46	20.02	20.51	22.21	23.82	23.44	23.07	27.13
47	19.51	19.84	21.49	23.17	22.72	22.38	26.44
48	19.00	19.18	20.77	22.50	22.12	21.68	25.75
49	18.49	18.53	20.06	21.81	21.47	20.98	25.06
50	17.99	17.90	19.37	21.11	20.72	20.30	24.35
51	17.50	17.30	18.70	20.39	20.20	19.62	23.65
52	17.02	16.72	18.05	19.68	19.59	18.97	22.93
53	16.54	16.14	17.39	18.97	19.00	18.34	22.22
54	16.06	15.55	16.74	18.28	18.37	17.73	21.50
55	15.58	14.97	16.08	17.58	17.88	17.15	20.79
56	15.10	14.37	15.45	16.89	17.27	16.57	20.08
57	14.63	13.80	14.82	16.21	16.71	16.02	19.38
58	14.15	13.25	14.20	15.55	16.15	15.47	18.69
59	13.68	12.70	13.58	14.92	15.60	14.93	18.00
60	13.21	12.17	12.98	14.34	15.02	14.39	17.32
61	12.75	11.66	12.40	13.82	14.50	13.84	16.64
62	12.28	11.15	11.84	13.31	13.96	13.28	15.96
63	11.81	10.64	11.30	12.81	13.42	12.72	15.30
64	11.35	10.11	10.76	12.30	12.88	12.17	14.64
65	10.88	9.60	10.16	11.79	12.36	11.63	14.00
66	10.42	9.11	9.69	11.27	11.82	11.10	13.37
67	9.96	8.61	9.18	10.75	11.33	10.61	12.76
68	9.50	8.14	8.67	10.23	10.81	10.14	12.16
69	9.05	7.68	8.17	9.70	10.32	9.67	11.57
70	8.60	7.25	7.69	9.18	9.83	9.22	10.99

[TABLE A. *continued.*]

Age.	Northampton.	Swedish.		Carlisle.	Equitable.	Government Annuitant	
		Male.	Female			Male.	Female.
71	8·17	6·88	7·25	8·65	9·35	8·79	10·44
72	7·74	6·50	6·85	8·16	8·88	8·37	9·92
73	7·33	6·16	6·47	7·72	8·41	7·96	9·41
74	6·92	5·82	6·11	7·33	7·96	7·54	8·92
75	6·54	5·50	5·78	7·01	7·52	7·12	8·46
76	6·18	5·22	5·39	6·69	7·07	6·69	8·00
77	5·83	4·94	5·10	6·40	6·64	6·23	7·58
78	5·48	4·51	4·80	6·12	6·20	5·78	7·19
79	5·11	4·41	4·50	5·80	5·78	5·35	6·83
80	4·75	4·09	4·22	5·51	5·37	4·94	6·50
81	4·41	3·86	3·98	5·21	4·99	4·55	6·20
82	4·09	3·67	3·77	4·93	4·60	4·18	5·89
83	3·80	3·50	3·55	4·65	4·30	3·82	5·57
84	3·58	3·36	3·40	4·39	4·00	3·46	5·22
85	3·37	3·23	3·23	4·12	3·73	3·12	4·84
86	3·19	3·07	3·16	3·90	3·50	2·81	4·44
87	3·01	2·95	3·01	3·71	3·30	2·53	4·03
88	2·86	2·78	2·83	3·59	3·11	2·31	3·62
89	2·66	2·68	2·57	3·47	2·91	2·12	3·21
90	2·41	2·50	2·26	3·28	2·65	1·95	2·83
91	2·09	2·38	2·06	3·26	2·35	1·83	2·49
92	1·75	2·18	1·83	3·37	2·02	1·65	2·21
93	1·37	1·96	1·75	3·48	1·70	1·49	1·97
94	1·05	1·87	1·72	3·53	1·25	1·34	1·75
95	0·75	1·70	1·70	3·53	1·05	1·18	1·55
96	0·50	1·50	1·50	3·46	0·75	·97	1·32
97		1·00	1·00	3·28		·75	1·12
98				3·07		·50	·94
99				2·77		·00	·75
100				2·28		·0	·50
101				1·79			
102				1·30			
103				0·83			

The results as respects pecuniary provisions against contingencies are thus set forth in the Second Report.—*See Table B.*

[TABLE B.]

	1	2	3	4	5	6	7
	By Dr. Price's table, founded on the register of Birth and Burials at Northampton.	By the first Swedish tables, as published by Dr. Price, for both sexes.	By De Parcieux's tables, founded on the mortality in the French tonines prior to 1745.	By Mr. Milne's table, founded on the mortality observed at Carlisle.	By Mr. G. Davies's table, founded on the experience of the Equitable Life Assurance Office.*	By Mr. Finlaison's tables, founded on the experience of the Government life annuitants.	
						According to his first investigation, mentioned in 1825.	According to his second investigation, mentioned in 1827.
						Mean of both sexes.	Mean of both sexes.
Of 100,000 persons aged 25, there would be alive at the age of 65 -	34.286	43.137	51.033	51.335	49.330	53.470	53.950
Of 100,000 persons aged 65, there would be alive at the age of 80 -	28.738	23.704	29.873	31.577	37.267	38.655	37.355
Expectation of life at the age of 25 years - - - - -	30.85	34.58 (a)	37.17	37.86	37.45	38.35	38.52
Expectation of life at the age of 65 years - - - - -	10.88	10.10 (b)	11.25	11.79	12.35	12.81	12.50
Value of an annuity on a life aged 25, interest being at 4 per cent. - -	£15.438	£16.839	£17.420	£17.645	£17.494	£17.534	£17.634
Value of an annuity on a life aged 65, interest being at 4 per cent. - -	£7.761	£7.328	£8.039	£8.307	£8.635	£8.896	£8.751
Value of a deferred annuity commencing at 65, to a life now aged 25, interest being at 4 per cent. - -	£0.55424	£0.65842	£0.85452	£0.88823	£0.88723	£0.99078	£0.98334

* *Note, by the Committee.*—In all the above tables it is to be observed, that the mortality is deduced from an equal, or nearly an equal, number of each sex, with the single exception of Mr. Davies's table, founded on the experience of the Equitable, in which office, from the practical objects of Life Insurance, it is evident the male sex must have composed the vast majority of lives subjected to mortality. But as it is agreed on all hands, that the duration of life among females exceeds that of males, it follows, that the results of Mr. Davies's table fall materially short of what they would have been, if the facts on which he reasoned had comprehended an equal number of each sex. The tables have not, in all cases, been computed at four and a half per cent., the rate allowed by Government.

(a) Swedish, 2nd table, 35.47; 3rd table, 36.33.

(b) 2nd table, 10.19; 3rd table, 9.93.

Notwithstanding all this evidence, Government still persevered in the wasteful expenditure which we have noticed, and which, at the time when this Committee presented their Report, was proceeding with increasing rapidity. The misapplication has been stated by Mr. Finlaison in terms so clear and forcible, that we shall quote them from the letter which he wrote to Mr. Herries on the 30th of April, 1827. In this letter Mr. Finlaison states,

“That unless the tables by which those life annuities are now sold, shall be immediately changed, the Sinking Fund will incur a most enormous loss, which has been for many years increasing, is now advancing at the rate of 8,000*l.* every week, and during the last three months has exceeded 95,000*l.*

“That judging by the experience which we now have had for these last eighteen years and a half, of the transactions of the first year of the life-annuity system; viz. the year ending 31st of August 1809; confining the question to that single year, in which only five hundred and forty annuities were granted (in all 58,506*l.* 10*s.* per annum), it appears there are still two hundred and twenty-eight of those annuities payable, to the extent of 23,251*l.* 13*s.* per annum, which, in reference either to numbers or income, is about four tenths of the whole, and some of those will no doubt continue payable for many years to come. In the mean time the account is closed with the annuitants.

“They have been paid back as much as would have repurchased all that they gave, and 10,759*l.* of stock to the bargain; consequently, as long as they live hereafter, the Sinking Fund sustains a clear additional loss to the extent of the principal and interest of whatever may be hereafter paid to them; and if this be, at present, the consequence of granting only 58,506*l.* 10*s.* per annum, the loss may easily be imagined which will eventually result from having granted 810,000*l.* per annum (for to that extent the life annuities have since been carried) on the very same erroneous measure of value.

“Now I humbly beg leave to represent, that the third and last statement is a mere question of fact which cannot be gainsaid. If doubted, it may instantly be set at rest by the most simple inquiry; as this much, at least, depends on no valuation of life

by any table of mortality whatsoever, nor any other reasoning that is not within the most ordinary apprehension. By a reference either to the Bank or the Auditors of Public Accounts, it will most certainly be affirmed ; and if so, I respectfully submit whether there is not matter for the most serious consideration."

Mr. Finlaison, eight years before, had forced the subject upon the attention of the then chancellor of the Exchequer (Mr. Vansittart), and had submitted to him nearly the same evidence. That statesman contented himself with directing that measures should be taken to form more correct tables (a work of many years), and meanwhile allowed the expenditure to run on. Mr. Finlaison made another effort, in 1823, to obtain from his lordship's successor some attention to the progress of the evil, but only obtained a repetition of the orders previously given him, to proceed in the formation of the tables, while the expenditure was still allowed to go on increasing. In 1825 the evidence we have described was produced and offered to the notice of ministers, but then a "greater degree of correctness was required." A great annual loss was not to be stopped until the extent of the loss was proved to the fraction of a farthing ! Mr. Finlaison again went over his tables, and, as we have already stated, found the extreme difference made in granting an annuity by his several tables would amount to fifteen shillings in the hundred pounds ; and, lastly, after having given evidence before the Committee on Benefit Societies, he tried what was to be done with a new chancellor of the Exchequer. It seems that we are indebted, for the escape from future burthens of the same kind, entirely to the Finance Committee.* Since there appears no sinister interest on the

* It might have been expected, that with a set of tables calculated according to a rate of mortalities derived from the experience of the long lives of the government annuitants, the nation would in future have been protected from loss by the sale of annuities. But the vigilance of individuals surpassed that of the department of administration. It was quickly perceived that if persons at a very advanced period of life were selected, who were in a more than usually good state of health, and soundness of constitution, enormous gain might be made. For example ; if the price of stocks were at, from $91\frac{1}{2}$ to 93 ; the price of an annuity of £20 a-year, so long as a person of ninety should live, was £31 19s. 10d. by three half yearly pay-

part of the Government, prompting them to persevere in this system of expenditure, we can only conjecture that it was continued from mere aversion to change, and perhaps from a presumption that nothing valuable could be produced by a clerk with a salary of only five hundred a year, who, for aught that appeared, had never been at either university, written a nonsense verse, or scanned a line of Horace : perhaps it was deemed improper to encourage such suggestions from people of this description, as it might occasionally lead to a notion on their parts of superior aptitude and capacity, which would endanger the proper official subordination, &c. &c.

We shall here advert to another source of extravagant expenditure. Connected with this subject, as part of the means of providing against the casualties of sickness and mortality, are the invaluable institutions of Benefit Societies and Savings' Banks. The commissioners for the management of the National Debt pay four and a half per cent. upon all deposits, whether received from Friendly Societies or Savings' Banks. We are ignorant of any good reason why the public should receive these deposits on other terms than those which would be settled between individual and individual in a common mercantile transaction. Admitting to the full extent the importance of giving encouragement to economical habits, we deny that the payment of bounties is necessary for such a

ments, the purchase money would nearly all be got back. But if the man should live until four, five, six or seven half yearly payments were received, the gain to the Proprietor of the annuity would be prodigious, and the loss to the country in the same proportion, great. It is well known that several gentlemen of fortune, and it is said some banks, sent to the most healthy districts and sought out individuals of advanced age who were in a superior state of health and soundness of constitution, and also of long-lived families, and laid out large sums in the purchase of annuities to be received as long as these men should live. The adventurers even carried the speculation so far as to supply the men thus selected with the comforts suitable to their years, and employed medical men to be always ready to assist them in order to keep them alive as long as possible. After the existence of such operations was discovered, one session of parliament was allowed to elapse before the Chancellor of the Exchequer could be persuaded to obtain an act empowering the commissioners to refuse annuities to men of very advanced age. It is stated in justice to Mr. Finlaison that he was one of the foremost, in his endeavours to put a stop to the malpractise.

purpose, or that more is requisite than to extend to the parties that superior accommodation, and greater security for investment, which it is in the power of Government to afford. This we apprehend would form an inducement adequate to every salutary purpose. All that is given as interest, beyond the market-price of money, is simply a premium upon fraud. Not long after the Savings' Banks were brought into operation, the market-interest of money being below four and a half per cent. it was found that investments were made in great numbers by far different persons from those for whose benefit the institution was intended. Instead of reducing the rate of interest to the level of the market, and thereby taking away the motive to the commission of fraud, the legislature enacted, that no more than 200*l.* should be received from one person: that no person should make investments of monies at two or more banks, on pain of forfeiting the additional sum beyond a total of 200*l.* so invested, &c. &c. But it is only requisite to know the amount of the bounty which four and a half per cent. at the market-price of money, did then, and does now, afford, to be satisfied that these enactments are constantly evaded. When these institutions make a deposit of their savings in the hands of the commissioners for the management of the National Debt, the latter purchase stock with it in the market. The present price, eighty-six and three-quarters, will yield 3*l.* 9*s.* 2*d.* per cent. interest; and as they allow to the depositor interest at 4*l.* 11*s.* 3*d.* per cent. the public are losing at the rate of 1*l.* 2*s.* 1*d.* upon every hundred pounds received: they lose in addition all the expenses of management. When a depositor can thus obtain for each 100*l.* deposited, as much interest as 131*l.* 19*s.* 7*d.* laid out in stock at eighty-six and three-quarters would bring in the market, even though subject to the risk of depression, it needs excite no surprise that these deposits amount to the enormous sum of upwards of sixteen millions of money. It is notorious that, in consequence of these inducements, the legislative enactments are set at defiance by persons who, besides their own deposits, make fraudulent investments in the names of the various members of their families, their relations, or their friends. Thus skilfully do our legislators attempt to cultivate good

habits among one portion of the community, and succeed in promoting bad habits among another !*

Before we quit the subject of the expenditure of public money with respect to these contingencies, we shall offer another specimen of the description of legislation which we may expect from those who transact the public business by way of an elegant amusement.

The Committee (the chairman of which was T. Peregrine Courtenay, Esq. one of the new administration) requested several actuaries, and amongst others Mr. Griffith Davies, to investigate the sufficiency of certain tables, and to state whether they considered the payment required upon them adequate for a society consisting chiefly of persons of the lower orders, and having the privilege of investing its funds at four and a half per cent. Mr. Davies declared the scale of contributions inadequate to provide for the annuities proposed, because he did not believe that such societies could make four and a half per cent. compound interest upon their money. But we will give the Committee's account of his objection, as well as their answer, in their own words :

‘ Mr. Davies's opinion is unfavourable upon two grounds : first, he states that the rate assumed will not in practice be obtained at compound interest ; secondly, he thinks that an allowance ought

* The interest on deposits was subsequently reduced. The reduction has been followed, as was anticipated, by a withdrawal of the larger deposits ; the deficiency having been supplied, and the increased total amount (now approaching to twenty millions of money) having been formed, by the increase of the smaller deposits. The interest at the present time somewhat exceeds the interest derivable from the funds. The whole arrangements of these institutions appear to us to be susceptible of considerable improvements to adapt them to the wants and conveniences of the labouring classes. The Annuity Societies, the formation of which have been introduced by the present Government, are excellent institutions ; but why should the annuities be restricted to twenty pounds per annum ? why should not the convenience of obtaining Government annuities be to an amount adapted even to the middle classes, upon terms to defray the expense of the machinery ? The new Loan Societies are also useful institutions ; but why should not the functions of Annuity Societies, and Loan Societies, and others, be exercised by the trustees and paid officers of the Savings' Banks ?—Fair security being given to our friend Mr. Tidd Pratt : the Central Board, sole of these institutions, whose zeal for the welfare of the labouring classes is somewhat recompensed by the multiplication of fees consequent on the multiplication of such institutions, should not suffer by the consolidation. It would be a wonder-working arrangement, if the interests of all public officers were as well adjusted to beneficent ends.

to be made in consideration of the annuity being paid weekly, whereby there is a loss of interest.

‘ Your Committee are disposed to overrule these objections, because they apprehend that the arrangement of the debenture does insure to Friendly Societies, doing business upon a large scale, the means of realising compound interest on very nearly the whole of their funds ; and the other gentlemen who have approved of the Dorsetshire tables appear to have taken into consideration the weekly payment of the allowance.’—*Second Report*, p. 8.

It appears from the last clause of the Committee’s answer, that it would have been too much to expect of honourable gentlemen to take upon themselves the trouble of examining the not very difficult question whether there really was a loss of interest by paying the annuity weekly. It was easier to rely upon such testimony as happened to be given them. The answer contained in the other clause of the paragraph might have been given more plainly in these words : “ Yes, four and a half per cent. can be obtained by these societies, because it can be given, and shall be given, from the public money :” the question whether such an employment of the public money is advantageous being one upon which they were not called to concern themselves.

We must, before we quit the subject of the management of the expenditure, connected with the contingencies of mortality and sickness, pay Mr. Morgan the compliment of a valedictory notice, and bestow a few remarks on his new pamphlet, which is intended as a defence of the conduct of his society, against those who have impugned its management, and its rates of insurance. In this pamphlet, and also in his answers given to the Committee of the House of Commons subsequently to the publication of the new tables, he eminently displays the vicious habit of mind to which we have adverted, as characteristic of the majority of practical men ; namely, obduracy to the reception of new evidence—indifference to the truth. This is a vice with which most men are more or less tainted ; but the practical men of his genius are distinguished by its mischievous excess. When the Committee ask him his opinion respecting the tables framed by Mr. Finlaison, he says, “ I have no opinion at all of them, I do not think favourably of them ;” but assigns no reasons for

thinking unfavourably of them. In his pamphlet he holds this language: “Of those absurd opinions which have been lately entertained respecting the improved health and greater longevity of the human race, I feel no disposition to enter into the discussion” [very likely, discussion being, to his interests, dangerous]. “They do not appear to be supported by any documents of the least credit or authority” [!!], “and I have only to express a hope that they may never be suffered to mislead this society” [*i. e.* to reduce its exorbitant charges to the public]. “From its first establishment, I know of but one instance of a person’s dying at the advanced age of ninety-four, and not above three or four instances of persons dying at the advanced age of ninety; and the whole number of nonagenarians now existing does not exceed seven or eight. As far, therefore, as the *Equitable experience* avails, this new doctrine has no foundation.” Future returns may be expected to exhibit a greater number of nonagenarians, but the new doctrine is, that fewer people die in the earlier stages of existence, that more attain a vigorous maturity; not that more live beyond the extreme period he mentions, at which, it may have been observed, most of the tables approximate. The fears of persons like Mr. Morgan cause them to exaggerate and misrepresent new opinions, and we expect to hear it proclaimed in derision, “That the philosophers have discovered we are to live as long as Methuselah, that sickness is banished from the earth, and the Millennium is at hand.” We do not, however, impute to this gentleman any wilful misrepresentation; we believe that he is himself misled by his interests. Had he not been under the most extraordinary infatuation, he would scarcely have published a document such as is contained in this pamphlet, which furnishes a piece of the most striking confirmatory evidence the “new doctrine” could require. He actually sets forth [p. 41], as the one source remaining, from which his society derives its chief security and success, “the higher probabilities of life among its members, than those given in the table, from which its premiums are computed.” “But,” he says, “even the benefits derived from this source have their limit.” “In a society composed entirely of young lives, selected from the general mass of mankind, the rate of mortality will necessarily be lower than in a table including lives of all descrip-

tions.* In a more advanced period of its existence, the effect of this selection will gradually lessen, till, in process of time, the society will become like any other community, and subject to the ordinary laws of mortality:" meaning, we suppose, to inform us, that they will not live for ever. "This is particularly exemplified in the following table of the decrements of life in the society during the last twelve years." The second column of this table represents the number of polices for the several ages; the third column shows the proportion of insurers who actually died; the fourth column exhibits the number who "should have died," had the Northampton table been correct.

Age.	No.	Died.	Should have died.
20 to 30	4,720	29	68
30 „ 40	15,951	106	243
40 „ 50	27,072	201	506
50 „ 60	23,307	339	545
60 „ 70	14,705	426	502
70 „ 80	5,056	289	290
80 „ 95	701	99	95

"Here," he says, "we see the probabilities of life in the society, which so far exceed those in the Northampton table in the earlier ages, continually approaching to them at a more advanced age, till, at last, arriving at an age at which no new members are admitted, they become nearly equal, and afford a striking proof of the accuracy of that table"!!!

The difference between the number who actually died, and the number "who should have died," on the one hand, shows the risks which individuals who insure upon rates founded on the Northampton table pay for beyond those they encounter; and, on the other hand, it exhibits the loss which Government has occasioned to the public by the use of that table to

* If our readers will refer to the tables of mortality we have given, and compare the experience of the Equitable Society with the Swedish table, they may estimate the effect of selection in presenting diminished chances of mortality, and give Mr. Morgan credit for it; and they will then perceive how considerably his own table of decrements yet makes against the Northampton table, on the experience of the great majority of lives under 70.

form its rules for granting annuities. It is declared, for instance, on this table of decrements, that where sixty-eight should have died, had the Northampton table been now applicable, only twenty-nine have died; consequently, if these parties, instead of being insured, had been Government annuitants, the public would have been burthened with thirty-nine annuities beyond the number calculated upon. We may say more than thirty-nine, because the lives of annuitants are better than those of insurers; because it is rare that an individual purchases an annuity who does not believe himself to be in good health, and of sound constitution, to enable him to enjoy it for a long period. Annuitants are also, in most cases, relieved from the painful anxiety which generally attends the pursuit of a livelihood, and more or less diminishes the duration of life amongst large classes.

More complete and satisfactory evidence of the improvement in the value of life among the classes whose condition and habits have improved, could not well be obtained. But still the lives of Government annuitants, and the navy and army pensioners, are to be considered as select lives, and we are left to conjecture how far they may, or may not, be applicable to determine the chances of mortality among other classes. The Northampton, the Swedish, the Carlisle, the Equitable, and the Government tables, differing as they do considerably, have each their advocates, as being most applicable to govern societies for insuring the labouring classes of the community. We are inclined to agree with the conclusion of Dr. Mitchell in favour of the Swedish tables, as being probably the best adapted to represent the chances of mortality amongst the labouring classes. We question whether the Chelsea and Greenwich out-pensioners are to be considered, relatively to others of the labouring classes, lives of the “very worst” description. “Many of these men,” he observes, “had no doubt suffered in their constitutions from service in foreign climes, and some from severe wounds; but, on the other hand, we are to recollect that the men who enter the army are admitted, not as the sticking-bills of the recruiting serjeants express it, for good character and education, but for good stamina and vigorous constitutions: so that, taking one chance against another, we may expect the lives of the Chelsea

and Greenwich out-pensioners to be better than those of the ordinary mechanics and labourers of the United Kingdom. Now the chances of the pensioners of Chelsea College are at any age better than those of the Northampton tables ; and, after fifty, are as good as those of the Carlisle tables.” The Carlisle correspond very closely, as may be perceived, with the Equitable tables, and the Equitable tables are founded on very select lives. Therefore the Carlisle and the Government tables, in all probability, present too favourable a rate for the classes who form Benefit Societies ; and the Swedish are the most applicable, as giving the probabilities of the life more favourable than the Northampton, and less favourable than the Carlisle, tables.

The mean chances between classes who differ widely in their circumstances, or the averages formed from the mortality which obtains in large classes, are obviously inapplicable for the safe guidance of any but institutions of great magnitude. The desideratum is to ascertain in what degree mortality is influenced by particular trades and avocations, and by the circumstances under which various classes have been placed. It is only in Paris that the collection of any satisfactory information of this kind has been attempted even. M. Villermé made a comparison of two arrondissements of that capital ; of the first arrondissement, which contains the largest proportion of wealthy people, and the twelfth, which contains the greatest proportion of poor people. The total difference is such, that when fifty people die in the first arrondissement, one hundred die in the twelfth. There is one birth annually for more than every thirty-two inhabitants of the first arrondissement, and one in twenty-six of the twelfth, and yet there are not more children from the age of 0 to 5 years in the last than in the first ; a proof that the poor bring forth more children than the rich, but preserve fewer. From a paper compiled by the same gentleman from the registers of the hospitals at Paris, it is made to appear that disease is not more frequent among the poor than among the rich or middling classes ; but it is more frequently fatal to the former than to the latter, and the gradations of wealth, or the means of providing comforts, (and we may add, more prudent and temperate management,) may be almost taken as the scale of mortality. Thus, in the higher classes of workmen, such as jewellers, printers, and compositors,

who enter the hospital, one in eleven dies; whilst among the shoe-makers or brick-makers, one in seven is the average mortality; of the stone-masons, one in six; of the common labourers, one in five; and of the poorest classes of all, the porters and rag-merchants, one in four: amongst the soldiers, who are in more favourable circumstances, not one in twenty; a fact which corroborates the observation of Dr. Mitchell, that the lives of our soldiers are better than those of the average of artisans. Our soldiers are in general better lodged and fed than those of the French army: we may infer, therefore, that their lives are better. The baleful effects of poverty were most perceptible in the greater mortality among the aged and the very young.

M. Villermé has also made some highly valuable researches to ascertain the amount of mortality in the whole of the prisons in Paris. He has proved that the average annual mortality in prisons is about one in twenty-three; and from this fact, comparing it with the average mortality in France, he concludes, that to be sent to prison one year in that country is equivalent to a deprivation of about twenty years of life. This would by no means apply to imprisonment in this country, where prisoners are often better lodged and fed than the classes out of prison from whom they are taken. It would be worth while, however, to make a similar inquiry, in order to determine the average mortality which prevails amongst the various classes of prisoners, that, from the results, the effects of various modes of punishment might be ascertained. Such an inquiry should be extended to the prisons for debtors, and we have no doubt that the facts elucidated would startle the public. Will any Howard, any Villermé, in this country ever investigate the average mortality among the suitors in Chancery? Having witnessed individual instances of the ravages of its long, anxious, and tormenting process on the health of suitors, and seen a suit attended with more deadly effects than a fever, we seriously believe that the amount of the deprivation of life among the victims of that detestable Court would almost be found equal to the average loss of life in any hospital in the metropolis.

Little was done, compared with what the Committee might by a small expenditure of labour have effected, to procure information similar to that obtained in Paris by M. Villermé.

They contented themselves with idly observing in the first report, “It must be owned that no extensive information has hitherto been collected as to the duration of life among the lower orders; and it is obvious that neither experience drawn from the higher and middling classes, nor results taken from the army, or from the London hospitals, can be depended upon in reference to the general mass of the manufacturing population.”

Mr. Finlaison stated to the Committee [*Appendix to the First Report*, p. 138], that “materials exist, however, which may be furnished with facility for estimating the sickness now actually prevailing among the labouring classes to a degree probably of very considerable accuracy. There is in the Navy Pay-office a pay-list received annually from each of the seven dock-yards, containing the age of every workman, artificer, or labourer in those great establishments, the amount of his wages or earnings in the year, and the number of days in which he received no wages by reason of sickness, the fact of such sickness being always verified by the public medical officer. I have not been permitted to avail myself of this document extra-officially, else I would now have submitted the result to your honourable Committee.” On a cursory view of the document, he found the amount of sickness among those under fifty to coincide very closely with the average of sickness reported by the Highland Society. He suggested that further returns should be made, and other materials for the formation of tables collected, from the various dock-yards, and from every regiment in the service. He was permitted to inspect some returns made to the Adjutant-general’s Office respecting the sickness prevalent in the army, which appeared to be thrice the average amount found by the Highland Society to prevail among the members of Benefit Societies in Scotland. As, however, it is well known that soldiers, during peace, live better than the majority of workmen, there must be much imposition practised to make the amount of sickness appear, on these returns, to be so considerable in the army. The best, and almost the only data we have to judge of the probable amount of sickness among the labouring classes in Great Britain, are, the returns obtained by the exertions of the excellent society to which we have just

alluded. This society procured returns from seventy-nine Benefit Societies situate in sixteen counties of Scotland. These returns were made up from the books kept during various periods, in some instances extending from 1750 to 1821. The aggregate number of members on the books of the respective societies was, 104,218. The first table ever formed to exhibit the probable annual sickness which a labouring man will sustain through life, is to be found in an able report drawn up by Mr. Oliphant for the society. The results stated are, that a working man will experience in a year, at

Years of Age.	Sickness.	Years of Age.	Sickness.
21 . . .	4 days	66 . . .	$5\frac{4}{10}$ weeks
46 . . .	1 week	67 . . .	$6\frac{6}{10}$ weeks
57 . . .	2 weeks	68 . . .	8 weeks
63 . . .	3 weeks	69 . . .	9 weeks
65 . . .	$4\frac{4}{10}$ weeks	70 . . .	10 weeks

The proportion, after that period, goes on increasing rapidly, at a rate that puts the individual beyond the means of assurance possessed by any of these institutions. The society endeavoured to ascertain, also, the different degrees of intensity to be expected in this sickness; and they state, as their nearest approximation, that, of ten weeks of sickness amongst persons of all ages under seventy, two may be assumed as bedfast sickness,—five as walking, three as permanent sickness.

In addition to the returns which Mr. Finlaison suggested, others, no doubt, might have been obtained from the East India Company, of the amount of sickness which prevails among the great number of workmen whom they employ. Other public bodies, the Dock Companies for instance, probably keep exact accounts of the time during which the labourers whom they have in their service are absent in consequence of sickness; and from these and other such sources, highly valuable information might have been collected by the Committee; but it seems they did not think it a matter worthy of any trouble, since we do not find in the Second Report any of the returns suggested by Mr. Finlaison.* They took the easiest course, and adopted, on specu-

* Messrs. Tooke, Chadwick, and Dr. Southwood Smith, the Commissioners constituting the Central Board of the Commission appointed to inquire into

lation, a set of tables grounded upon an estimate of sickness considerably higher than that which results from the inquiries of the Highland Society. We would recommend to the philanthropy of private individuals, or to the industry of similiar societies in England, the task of obtaining correct returns of the nature and extent of the sickness which prevails among various classes of our artisans, who might with no great difficulty be brought to keep correct accounts of the facts which it is desirable to collect. If the sickness consequent upon different sets of circumstances were accurately recorded, the operation of causes which cannot now be clearly detected in single instances would be pointed out for removal; as, in the numerous cases where classes of workmen

the effects of labour in factories upon the general condition of the operative classes, obtained as a means of comparison, from the Directors of the East India Company, returns for ten years of the experience of the labourers in their service. The number of these labourers was at the commencement of the period of the service, 2461.

As the most accurate account had been kept, and a sum of one shilling and sixpence had been paid to every man during sickness, the most exact return was obtained. The result, as calculated from this return, was as follows;—

Age.	Average duration of sickness per annum for every man employed.	Average duration of sickness per annum for every man sick.
	Days and decimal parts.	Days and decimal parts.
16 to 21	4·02	13·96
21 to 26	5·40	17·22
26 to 31	4·49	20·18
31 to 36	4·55	21·44
36 to 41	5·57	23·84
41 to 46	5·18	22·83
46 to 51	5·43	23·59
51 to 56	6·80	28·61
56 to 61	7·21	28·28
61 to 66	10·24	31·25
66 to 71	9·93	26·89
71 to 76	10·60	29·67
76 to 81	12·67	38·88

This experience of the labourers of the East India Company agrees as far as the age of 41 with that of the Societies of which account was taken by the Highland Society of Scotland, and is rather more favourable from 41 to 51. After that it is much more favourable, which is readily accounted for from the circumstance that the East India Company pensioned off all the men who had become invalid, and no account was kept of their sickness. It may appear surprising that the experience of a body of men living in London should be as favourable as that of the societies chiefly composed of persons living in rural districts. The causes are explained in the evidence of Mr.

sustain unnecessary injury to their health from want of precaution, and from methods of working which admit of change. Returns displaying, as they must do if collected properly, the consequences of vicious peculiarities and habits, would effect more in the way of reformation with the old, and of prevention with the young, than the most inflammatory preaching that could be brought to bear upon them. The utility of such returns would be greatly augmented if they were accompanied by accounts of the wages received contemporaneously by each class, and the prices of their most common food, together with every material change in any of the circumstances affecting their condition*.

Lewis Leese, jun. The men were in the first instance select, nearly as much so as recruits going into the army; care was taken also to give men who became infirm such labour as they could perform without severe exertion : but, above all, they had the benefit of medical advice without any expense ; and being thereby induced to make early application, disease was cut short at once on its first appearance. All persons who employ large bodies of people would at once study their own interest, and exert the most useful benevolence, by imitating the East India Company, in providing medical relief to their people.

The following is a comparison of the other chief existing Sickness Tables :

Age.	Mean duration of sickness per annum, in weeks and decimals of a week.			Ratio of mean annual sickness in the English societies to that in the Scotch societies, the latter being taken as one.
	According to Dr. Price's hypothesis.	According to the Highland Society in 104,218 cases.	According to the Diffusion Society in 24,323 cases.	
20	740	. . .
21	. . .	575	793	1·37913
25	. . .	585	762	1·30256
30	. . .	621	832	1·33977
32	1·0887	641	887	1·38378
35	1·1550	675	964	1·42815
40	1·2488	758	1·160	1·53034
45	1·4449	962	1·327	1·37942
50	1·6842	1·361	1·726	1·28618
55	1·9022	1·821	2·443	1·34157
60	2·2448	2·346	3·154	1·34442
65	2·7255	4·400	5·498	1·24955
70	3·4482	10·701	11·685	1·09195

* Mr. Chadwick, in his Report as a Commissioner of Enquiry into the administration of the Poor Laws, suggests that it is only by means of careful and extensive collections of facts or statistics that medical science can be rapidly advanced. He states, ‘ It appeared to me, (and some of the best-

The last departments of the subject to which the space allotted to us permits us to allude, are the probable prolificness of marriages, and the mortality to which the children produced

informed medical men whom I have examined in the course of these enquiries assented to the conclusion,) that the medical inductions from the observation of individual cases, or from the small number of cases of the same class, which usually come within the range of the practice of the most eminent practitioners, complicated as most medical cases are with idiosyncrasies, afford scarcely any, or at the best but doubtful results or indications; and that it is only from the most extended collections of facts, *in which the disturbing causes are merged in the most general effect*, that the general principle can be displayed with the certainty requisite for safe action. Take, for example, the medical doctrines with relation to the diet of different classes of people.

‘I have shewn that the difference in the quantities of food consumed by agricultural labourers and artizans when procured in return for their labour, as compared with the allowances which persons obtain by becoming inmates of workhouses, prisoners in our gaols, convicted thieves, or transported felons, are as follows:

As agricultural labourers	-	-	-	-	122	} ounces weekly of solid food.
As artizans (of the highest wages)	-	-	-	-	140	
As paupers	-	-	-	-	150	
As soldiers	-	-	-	-	168	
As prisoners in gaols	-	-	-	-	217	
As convicts on board the hulks	-	-	-	-	239	
As transported felons or convicts	-	-	-	-	330	

The proportions of the dietaries in bulk of the five last classes are proved by the official returns.

‘In some cases a healthy labourer who has to provide for himself will eat about 136 ounces of solid food weekly; but it is rare that an independent labourer’s family consumes more than 122 ounces of solid food per head weekly.

‘This has been proved by detailed enquiries, such as those already recited, made of agricultural labourers in different parts of the country, as to their actual consumption; by detailed enquiries made of shopkeepers, as to the quantities of provisions they are accustomed to sell to the families of independent labourers of various classes; by the fact that when from the wages of the independent labourer who maintains a wife and an average family are deducted house-rent, the cost of clothing, and other expenses of maintenance, enough will not be left for the purchase of a diet for the family so high as would be received by them if they were to become criminals; also by the fact, that when such labourers and their families become paupers, and are received into the workhouse, they generally declare that the diet received even there is much better than they have been accustomed to procure for themselves as independent labourers. And it may be added, that the paupers who become criminals and inmates of prisons declare that the diet which they obtain in prisons is still superior to that which they obtain in workhouses.’ (See the evidence of the paupers stated in p. 257 of the “Selections from the Reports, &c.”)

‘These dietaries of the last five classes are prescribed, with medical sanction, in gaols in the same town and in the same county; and for similar classes of prisoners,—dietaries varying to the extent of one being double the amount of the other are prescribed by the medical officers. These variations

from them are liable, information essential for endowments and for providing for marriages and families. The attention of the Committee was much occupied on these topics, yet but little in-

are marked by variations in the health of the prisoners. The like discrepancies in diet are observable in the dietaries prescribed by medical men to the inmates of workhouses within the same district. And on examination I have found that the ordinary observation of one or two prisons, or of one or two workhouses, which is the usual extent of experience of a medical man, does not suffice for the establishment of any conclusion (which can be termed accurate) as to whether a given amount of sickness in such places is the effect solely of a certain quantity or quality of diet, it not being allowable to make *experiments*, although such experiments might be safely made with different diets upon the same classes of prisoners.

‘ The agricultural labourers of this country are on the whole a strong body of men. Notwithstanding many defects in their modes of life, as to the other essentials of life—simple and sufficient diet, warmth of clothing and lodging, and ventilation, including a circulation of air which is warm as well as pure, they are, comparatively to other labourers, a healthy class. That the agricultural labourers are on the whole more healthy than the preceding generation of labourers, is proved by the encreased duration of life amongst them as shewn by the mortuary registers.

‘ This being so, the question presented itself, whether an encreased amount of food to those who had less labour,—namely, paupers and prisoners,—was requisite to maintain a fair average degree of health amongst them. The dietaries of this class appeared, however, to have been prescribed without reference to any standard.

‘ The governors of several of the workhouses where the paupers were allowed a high diet stated to me that the change of diet on the first entrance of paupers into the house sometimes proved too much for them, and “carried them off.” From the statements made by medical men, it appeared that in such houses acute disease was often rife and fatal. The number of these statements with reference to large classes of persons appeared to me to establish the conclusion that the heavier diets are amongst the least healthy; but inasmuch as no account that I could find is ever kept of the sickness prevalent at any of the workhouses, I was unable to obtain any precise results on the subject.

‘ On further enquiry, I found, however, that a general account of the sickness and mortality which occurs in each gaol throughout the country is annually returned to His Majesty’s Secretary of State for the Home Department, in compliance with the regulations of the Gaol Act. Upon an examination of these returns, I found frequent instances where the average amount of sickness bore a proportion to the amount of diet. Where the diet was encreased in point of quantity on account of the prisoners being subjected to hard labour, there the sickness also encreased. These results led me to a further examination of the subject.

‘ There are returns sent annually from 128 gaols and prisons in England and Wales; and on an examination of the returns for three years, 1830, 1831, and 1832, it appears that the total number of *commitments* averages no less than 97,279. The total number of *persons* in the gaols at *any one time* appears to be about 25,000. The average number of persons sick each year is 9,044, or $9\frac{1}{3}$ per cent. on the whole number of commitments.

formation of value was elicited from any of the witnesses, except from Dr. Granville, a physician and accoucheur of very extensive practice, connected with several public institutions. We know

‘ The deaths each year average 247, or 1 in 394 on the whole number of commitments.

‘ The cost of maintaining the prisoners varies from 1s. 2d. to 5s. and even 7s. per week; but the average cost is 2s. 6d. per week.

‘ Of the 128 returns, 27 do not serve the inquiry as to diets, either because they are so deficient that a correct calculation cannot be made from them, or because in the prisons to which they relate money is paid to the prisoners in lieu of food. On examining the 104 more complete returns, it will be found that the general results closely correspond with those already indicated by the particular instances above quoted. Thus, taking of the 104 returns, the 20 gaols where the expense and quantity of the diet are the lowest, the 20 where the expense and quantity of the diet are the highest, and the 20 where they are intermediate, the results appear as follow :—

	Cost per week.	Ounces of solid food per week.	Sick per cent.	Deaths.
	s. d.			
Twenty lowest diets	1 10 $\frac{1}{4}$	188	3	1 in 622
Twenty intermediate diets	2 4 $\frac{1}{4}$	213	18	1 in 320
Twenty highest diets	3 2	218	23 $\frac{1}{2}$	1 in 266

‘ With a view to determine whether any new results could be obtained from the remaining 41 diets, I divided them into the 21 diets of the lowest cost, and the 20 diets of the highest cost. In these instances it appeared that the 21 gaols with the diets of the lowest cost were, from the circumstance of their being chiefly in rural districts, where the provisions are the cheapest, the gaols where the diets were the heaviest. It appears as a concomitant that in these gaols the amount of the mortality was also the greatest. The following are the results :—

	Cost weekly.	Ounces of solid food weekly.	Sick per cent. annually.	Deaths annually.
	s. d.			
Twenty-one lowest cost but highest quantity	2 5	257	11 $\frac{1}{2}$	1 in 277
Twenty highest cost but lowest quantity -	3 0 $\frac{1}{2}$	238	11 $\frac{1}{4}$	1 in 351

‘ There is nothing set forth in the face of these returns as to the localities, and nothing in the circumstances of any of the prisoners to mark the predominant cause, other than the invariable connexion of heavy and light diets with the comparatively high and low rates of sickness and mortality.

‘ In

nothing of this gentleman beyond the evidence given in the report ; but his attention to this subject appears to have been highly meritorious. His opportunities for observation were very

‘ In the returns of the 20 gaols of the lowest cost, will be found several of the larger gaols of the metropolis, such as Newgate, Clerkenwell, Horse-monger-lane; crowded gaols, in which the prisoners remain for shorter periods than in the gaols of the agricultural districts. From this circumstance it might be inferred that the diminished amount of sickness in those gaols is attributable chiefly to the shorter periods of confinement of the prisoners ; but this inference is rebutted by the facts, that the sickness consequent on any change of diet takes place at the commencement of the confinement, or within shorter periods than those during which the average of the prisoners remain in the gaols in question ; and that the health of the prisoners is proportionately good in other gaols, where the average periods of confinement are long, but where the diet is simple and the cost is low. It is to be observed also, that this objection does not apply to the intermediate diets compared with the highest diets ; there being, as will be seen in a sub-joined table, no material differences in the periods of detention between the prisoners of the two classes. It is further to be observed, that in the gaols where the cost of maintaining the prisoners has been reduced, the sickness of the prisoners has in no recent instance been increased, but has in general been diminished.

‘ Dr. Julius, who is the commissioner appointed by the King of Prussia to examine the prisons in the Prussian dominions, and who is now on a tour for the examination of the prison discipline of other nations, informs me that the dietaries of the prisons in Prussia, which consisted chiefly of bread, formerly varied from 16 ounces to 32 ounces daily. Attention was recently attracted to the subject, as he believed, in consequence of the discussions on diet contained in our published Reports under this commission. Returns of the dietaries were required to be forwarded to a central office ; and in consequence of the discrepancies observed in them, an ordinance was issued in the spring of last year, fixing the allowance of bread at 22 ounces daily, or 154 ounces weekly, in every prison throughout the kingdom. The change of diets was made gradually ; but the medical superintendents report favourably of it so far as it has proceeded.

The returns of the sickness and mortality prevalent in the same gaols during the years 1834 and 1835, making allowances for the variation of the food from change of management, corroborate the conclusions derivable from the returns of the previous years. The summary of the returns for the years last mentioned is as follows :

Dietaries.	Weekly cost per head.	No. of oz. of solid food per head per week.	Number of sick per cent.	Number of deaths.
	<i>s. d.</i>			
20 lowest dietaries.	1 10	187½	3¾	1 in 736
20 intermediate dietaries	2 3	222	20	1 in 326
20 full dietaries.	2 4¼	254	21¼	1 in 334

considerable. The number of cases which came before him professionally were numerous. With reference to women, the number of cases were, at the Westminster Dispensary, during

In the higher class of dietaries, where it appears that the proportion of meat has been diminished and the vegetable food increased, there the amount of sickness has also been reduced. The bulk of the intermediate dietaries has been increased: the sickness also has been increased. The returns of the effects of the diets in the forty-one remaining gaols, during the same years, are also confirmatory of the same conclusion.

Dietaries.	Weekly cost per head.	No. of oz. of solid food per head per week.	Number of sick per cent.	Number of deaths.
	s. d.			
21 lowest cost	2 1 $\frac{3}{4}$	259	15 $\frac{1}{4}$	1 in 336
20 highest cost	2 4	232	11 $\frac{1}{3}$	1 i 409

It will be observed, that in the 20 gaols where the cost of maintaining the prisoners is the highest, there has been a like reduction in the amount of food, (which is shown somewhat in the reduction of the price,) followed by a reduction in the amount of sickness. I submitted the tables to Mr. W. Farr, the surgeon and medical statist, who has combined the facts differently. The above results were obtained from the number of the committals to other gaols. He has deduced the subjoined results from the numbers in the gaol at the time of making the returns, on the supposition that these furnish an approximation to the mean population of the three classes of prisoners.

5 Years, 1830-4.	Prisoners committed.	In gaols at time of return.	Attacks of sickness.	Deaths.	Mean time of detention.	Annual attacks of sickness in a mean population of 100.
20 gaols of lowest dietaries ..	164,714	15,173	6,127	243	34	40·4
20 gaols of intermediate dietaries	63,440	12,398	11,550	188	70	93·15
20 gaols full dietaries	39,717	7,932	8,937	137	73	112·7
60 gaols	267,871	35,503	26,614	568	48·4	75·0

According to this mode of obtaining the results, it appears that the attacks of sickness increase progressively with the increase of the dietaries. The mortality varies very little; but it is the highest where the diet is full.

‘I might venture to assume from these facts, at least, that the sickness is increased as the quantity of food is increased; and at all events, that the

seven years and one quarter, 7,060 ; at the Benevolent Institution, during three years, 2,755 cases ; and at both these institutions, with respect to children, 9,000 ;—while at the Royal

lowest actual dietaries have no deteriorating influence on the health of the prisoners.

‘ I submit these results, however, as establishing a case for further inquiry. I do not deny the existence of any countervailing facts, though I am aware of none. In general I should rely more confidently on the examinations of the particulars than upon deductions solely from an array of statistics or columns of figures, and would act upon no such deductions unless confirmed upon an examination of the particulars to which the figures refer : for most statistics consist of accumulations of items or units, each of which items or units represents but one of a *train* of particulars which cannot be represented by means of figures ; and as those items are well or ill chosen, (which can only be determined by an examination of the whole of the particulars,) so are the results indicated likely to be sound or unsound. This I have had occasion to exemplify more fully elsewhere. I may mention however as illustrations, that in the course of the inquiry into the labour in factories, a return was presented to us of the number of surgical cases of factory operatives taken to the Manchester Infirmary. The return was presented in support of an inference as to the injurious effects of the employment in factories, and if received as presented it was certainly a strong piece of evidence ; but on inquiry into the particulars of each item in the return, or case enumerated, it appeared that the greater proportion of the cases were of injuries received in drunken quarrels, or from accidents in the streets or elsewhere ; and that only a small proportion of the whole were cases of injuries received within the factories. Each item in this return represented only the fact that an operative had been treated in the infirmary ; but that fact or particular, was only one of a train of other particulars, comprehending the essential ones, as to the mode in which the injury had been received, whether by his own fault or the negligence of his employers. So in the statistics of crime : the columns of figures representing the numbers of persons tried or convicted have been implicitly received by the public and the legislature as representing the amount of crime committed ; whereas a statistical return of the number of fish caught in the Thames might be received in like manner as a correct measure of the number of fish in the river ; or the acts of prey in which the fish, like the depredator, were caught, might be taken as evidence of the number of acts of prey which they had committed, or as evidence of the number of acts of prey committed by the whole of the fish at large. On investigation, it is found that in some districts, where a judge may receive white gloves from the absence of prisoners, crime riots ; there being no pursuit, and consequently no apprehensions or committals, nothing in the display of statistics showing criminality ; whilst in other districts, where a newly-appointed police opens an active pursuit and brings numerous offenders to justice, the prevalent conclusion is, that crime is on the increase, and *cum hoc ergo propter hoc*, the police has been the cause. A short time ago an allowance of the expenses of prosecutions was made in one county to constables by the magistrates assaulted in the execution of their duty. Forthwith the statistical returns showed so great an increase of the crimes (*i. e.* of prosecutions), that it appeared that scarcely a warrant could be served without exciting resistance to lawful authority, and that there was an end to all order. So when an extra allowance of expenses was made for prosecutions for attempts to commit rape, the crimes (*i. e.* the prosecutions) increased so considerably, that the worthy magistrates on the bench

Infirmary for Sick Children, no less than 5,640 cases came before him;—giving a general total of 24,450 cases for observation. He submitted the register of a considerable number of these

were lost in speculations as to the cause of the *avatura* of lust which had come upon the county.

‘Where the whole of the particulars of each case suggest, or upon full examination establish a conclusion, then statistical returns are useful and necessary to test the soundness of the conclusions, and to measure the extent of the operation of the causes indicated. I have found statistics—that is, statistics confirmed by inquiry into the particulars of the case—more useful as tests and measures than as indicia of general principles, or of the prevalence of general causes. Their public importance for these purposes is yet but little appreciated.

‘Recurring to the returns with relation to the various dietaries for the years first named, I submit the following facts to illustrate the extent of the evil:—

‘Taking the highest average of food, the food of an agricultural labourer’s family, at 130 ounces of solid food per head per week, we find that the gaol allowance is about 180 ounces per head per week, or 50 ounces more than the labourer obtains weekly per head for his family. A conception of the aggregate excess of allowance in point of quantity may be formed by considering that the 25,000 thieves, and other prisoners constantly in the gaols, consume 50 ounces per week more than is obtained by each of a labourer’s family, or in the aggregate upwards of 1,800 tons of food more than the same number of agricultural labourers obtain in a year in return for their honest labour. 2,400 horses would be required to draw the excess in quantity, (allowing each horse a load of 1,500 weight,) and it would maintain 8,300 agricultural labourers one year.

‘The excess in cost of money may be determined by the consideration, that if the whole of the prisoners in England were placed upon the low and more healthy diet at the cost of 1s. 10d. per head per week, the annual saving would be 43,336l. 6s. 8d. But if the whole of the prisoners were placed upon the simple and healthy diet of such prisons as those of Manchester and Coventry at a cost of about 1s. 3d. per head, the saving in diet only would amount to the annual sum of 81,250l.

‘To the cost in money to the public must be added the serious cost in sickness and mortality to the prisoners, amongst whom it must not be forgotten that considerable numbers are confined for offences comparatively slight.

‘The average of the sickness which is the concomitant of the lowest diets being $3\frac{1}{4}$ per cent., it would seem to follow that the excess of sickness beyond that rate is the effect of the profuse diets, and consequently (the total number of sick being 9,044 instead of 3,161 annually, at $3\frac{1}{4}$ per cent. on 97,279,) it follows that an average of 5,882 prisoners are every year made sick in consequence of the profuse diets.

‘The average of the mortality which is the concomitant of the lowest and most healthy diets being only 1 in 635, and the total average of deaths being 247 annually, (instead of 153 at the lowest average,) it follows that 94 prisoners are annually sacrificed by the operation of the higher dietaries.

‘This mortality is exclusive of the mortality by the agency of the executioner; the average number of criminals executed being, even during those years, 58 annually.

‘In illustration of this difference, it may be stated, that in the year 1830,

‘The deaths by the executioner were 46.

‘By apparent excess in the supply of food, 96.

‘It

cases to the Committee. The “practical men” who were his predecessors at these institutions had merely troubled themselves to ascertain the name and age of the patient, whether she had produced a boy or a girl, and what was the date of its birth. Dr. Granville observes,

‘As my attention had been frequently directed to the statistical questions of the increase of population among the poor, I thought that the public institutions I belonged to might be made available in obtaining the information to which I have just alluded, and I therefore established these analytical registers, in which, under particular heads, and in separate columns, I enter the information that the mother gives me.’

‘It must still be recollected that a large proportion of the prisoners amongst whom this sickness and death falls are untried, and that many of them would probably be discharged as innocent, and many of them are confined on sentences of a few days’ or a few weeks’ imprisonment. Whilst it appears that prisoners may be maintained in a state of health with no more than $3\frac{1}{4}$ per cent. of sickness, and a mortality of 1 in 635, what can be said if no efforts are made for the discontinuance of a system, in which a prisoner, in addition to his sentence, is in fact subjected to a forced lottery, in which 23 lots out of every hundred entail a fit of sickness, and amidst every 266 there is one fatal ticket—a sentence of death?

‘As the lowest diets are in point of quantity so much above the diets with which the independent labourers are contented, it was scarcely to be expected that any variation in the re-commitments would be found to accompany the variations in the amounts of the diets. It will, however, be found, that whilst in the ten prisons where the cost of maintenance averages 3s. $7\frac{1}{2}d.$ per head per week the numbers re-committed average $6\frac{1}{2}$ per cent. per year, the numbers re-committed to the gaols where the cost of maintenance is 1s. $8\frac{1}{2}d.$ per head per week is $4\frac{1}{2}$ per cent.

‘Supposing, as I see no reason to doubt, that these results should be confirmed by a more close scrutiny, I would submit the facts in illustration of the importance of a central control. By means of an institution of that nature, it appears to be practicable to bring to a focus such evidence of the results of past experience as may serve for the future guidance of the general and local administrators of the law, and in some degree serve as checks against neglect to take the measures which the evidence may indicate. Had the evidence from which the conclusions above recited are deduced been presented to the attention of a determinate person, or set of persons, who were specially charged with the duty of supervising the establishments and with the power of regulating them, they could scarcely avoid taking measures to put a stop to the waste of life, health, and money which the existing modes of administration occasion. There appears to me to be no ground for any imputation of mismanagement imputable from these facts to the magistrates who are charged with the superintendence of the prisons in question. Their own and adjacent jurisdictions rarely supply them with any standards of comparison. *A priori*, the highest allowance appears scanty for the maintenance of an adult; and, in fact, in the greater proportion of cases the dietaries are determined by the surgeon or medical officer of the establishment. Nor is blame imputable to those officers, as they cannot be censured for not acting

For this purpose the Doctor put a variety of questions, to ascertain the earliest age at which women of the poorer classes marry,—the number of children they produce in a given period,—how many of those children may be expected to die within a given period, and of what diseases,—at what period of life married women among the labouring classes are the most prolific,—at what time they cease to bear children,—what is the influence of the occupations of the parents on the health of the offspring,—what is the effect of locality, under the head of resi-

upon evidence which could not, for the reasons stated, be present to their minds.

‘ I would observe, however, that on strict principle, neither criminals nor paupers can be entitled to or can be safely allowed as high a degree of comfort as the lowest of the labouring classes. And had the average of ordinary sickness attendant upon the reduced scale of diet been greater instead of less, it may be submitted that the reduced diet ought, notwithstanding, to be enforced. It is highly satisfactory, however, to perceive from the evidence cited, and from other evidence to which it were unnecessary to advert, that to the health as well as to the morals the restriction to a simple vegetable diet is equally beneficial. By those good persons whose hearts are larger than their heads,—who, under the disastrously ambiguous word “poor,” confound the independent labourers with the dependant paupers—who can see only the real or imagined privation before them—whose sympathies are boundless for the prisoner, be he robber or murderer—whose eyes see not, whose hearts therefore rue not, the sufferings of the honest who have been robbed, or of the relations of those who have been murdered;—by these well-meaning persons, as well as by those who profit by profusion and by misrepresentation, the display of the effects of the management, for which they are in some measure responsible, and the suggestion of the necessity of an alteration of the ordinary diets, will doubtless be received as a suggestion for a reduction of the diets and comforts of the labouring classes. A strict administration in all these cases, it will be found, only affects the comforts of the labouring classes, in the way of augmentation. The independent labourers, to whom the degrading appellation of “poor men” is applied by their intended friends but real enemies, are as much entitled to the widest range of comforts which their means will enable them to obtain, as the rich men. But I do not see how it can be reconciled to any sound principle of administration, that either paupers or felons should enjoy heavy dietaries with meat, whilst to a large proportion of the people of the three kingdoms even bread is a luxury. “But why always the dearest grain? why white bread for the worst class of population—namely, felons—whilst soldiers live well on brown bread? Why always, and at all events, bread? Is bread everywhere a necessary article? I may ask in the words of a late eminent philanthropist? ‘The bulk of the people in Scotland live on oatmeal; the labouring population of Ireland live not even on brown bread, but on potatoes. Are the Irish a puny race?—Has the arm of the Highlander been found weak in war?—Is the lesson to be held out to the great bulk of the population, that the food with which *they* are content is not good enough for indolent able-bodied paupers, or even for felons?’ ”

56 Chances of obtaining Husbands by Females at different Ages.

dence, among the poor,—besides a number of other questions on medical as well as statistical points of inquiry, the answers to which he registers in the manner he has described. He submitted to the Committee the registered cases of 876 women, for the truth of whose statements he possessed the most satisfactory securities ; but in all other respects they were taken indifferently. The following table, derived from their answers as to the age at which they respectively married, is the first ever constructed to exhibit to females the advance and decline of their chances of marriage at various ages, and is deserving of the study of spinsters. Of the 876 females there were married,

Years of Age.				Years of Age.			
11	.	.	at 13	22	.	.	at 28
16	.	.	„ 15	17	.	.	„ 29
43	.	.	„ 16	9	.	.	„ 30
45	.	.	„ 17	7	.	.	„ 31
76	.	.	„ 18	5	.	.	„ 32
115	.	.	„ 19	7	.	.	„ 33
118	.	.	„ 20	5	.	.	„ 34
86	.	.	„ 21	2	.	.	„ 35
85	.	.	„ 22	0	.	.	„ 36
59	.	.	„ 23	2	.	.	„ 37
53	.	.	„ 24	0	.	.	„ 38
36	.	.	„ 25	1	.	.	„ 39
24	.	.	„ 26	3	.	.	„ 41
28	.	.	„ 27				

It is to be borne in mind that the females whose relative ages at the time of their marriage are above exhibited, were all of the middle lower classes. Among an equal number from the higher classes we should not probably find so many as 195, or more than one-fifth, married under the age of 19 ; or so few as one-sixteenth part after 28 ; or only one-thirtieth part after 30. From these 876 marriages there had been, previously to the then existing pregnancies, 4,621 pregnancies ; of which number 655 had miscarried ; 176 were still-born ; and 2,914 children were born alive. Thus there may be said to have been 3,966 births, or an average of $4\frac{1}{2}$ to each marriage. Of these 1675 children survived. He had no means of ascertaining what proportion the marriages which were unproductive bore to those which were productive. Mr. Malthus gives $4\frac{1}{4}$ as the average number of children produced from each marriage. Dr. Gran-

ville found, that, during the whole time at which these women continued to bear children, they had each two children in about four years. Considerable exertion was bestowed by the Doctor to determine what effect the age at which a woman married had on the number of children she produced. He observes,

‘ It is a curious fact, that if a woman marries at twenty-one or twenty-two, and is placed under precisely similar circumstances for the following fifteen years as women at fourteen, fifteen, and sixteen marrying at that age may be supposed to be under, she will produce the same number of children as the latter would, though the party marry seven or eight years later: and the reason is this, that those who marry very young cease either sooner, or go a great number of years without children. When they arrive at twenty or twenty-five years of age, they will stop till about thirty, and begin again: whereas, the age of maturity at which a woman is most prolific appears to be about twenty; and there seems to be no stoppage, except disease steps in,—going on regularly every two years, or, if she do not suckle, every year, until she arrives at forty or forty-two years of age, which is the usual period for it to terminate.’—*Second Report*, p. 42.

He found that the permanent ordinary state of health of the father, as well as of the mother of a child, had a greater influence on its health than was commonly suspected. The witness had made greater progress in the collection, than in the operation of theorizing his facts; and on several points he abstained from stating his conclusions to the Committee, as he did not consider that he had yet attained the requisite degree of completeness to warrant him in promulgating them.*

* Some additional information of the fecundity of women, and of the period of time from child to child, was obtained in 1833, from returns made to the Factory Commission, the results of which are worked out in Dr. Mitchell's Report.

In Catrine, in Ayrshire, out of 110 married women who had worked in the factory in their youth, there were 42 who were 45 years of age and upwards, and therefore may be presumed to have been past child-bearing. They had had amongst them 316 children, being on the average 7·52 each. The average period from child to child, according to the experience of these 110 women, was 2 years and 24 weeks, or 128 weeks.

In the same village, of 109 married women who had never worked in any factory, were 58 who had attained the age of 45 and upwards. They had borne amongst them 460 children, being on the average 7·92 each. The period from child to child of these 109 women was 2 years and 31 weeks, or 135 weeks.

The Committee gave more than usual attention to a scheme set on foot for the purpose of inducing unmarried men to pay a certain sum annually, on condition that every child resulting from any marriage he might subsequently contract, should, when it attained a certain age, be entitled to a certain sum of money, or a certain annuity. On the practicability of this scheme Dr. Mitchell observes,

‘ It is not likely that single men will be induced to pay down a sum of money, or to contribute annually for such a contingency. And if ever any considerable number of single men in this country should become so prudent as to do so, it may be questioned whether, with so much prudence, we should have so many marriages as at present; and we may expect that, in that case, the amount of population, now so overwhelming, would be reduced to so healthy a state as to raise the price of labour, and enable a man to support his family without such assistance. It is, perhaps, unnecessary to occupy time to show this scheme to be undesirable in its effects, as it does not appear likely ever to be carried into practice.’

The data were found insufficient for the establishment of any safe theories on the subject. As an instance of the ruinous extremes to which practical men are carried when they have no sound theories for their safe guidance, we may mention the cir-

At Deanston, in Perthshire, 23 women, who had been married each 16 years and upwards, had had amongst them 170 children, or 7·9-23 each. The average period from child to child was 119 weeks. Some returns were obtained from Staffordshire; but of these there were only 17 who had attained 45 years and upwards. They had had amongst them 92 children, being on the average 5·7-17 each. Of the 130 women, the average period from child to child was 2 years and 26 weeks, or 130 weeks.

The experience of these 17 women falls far short of the fecundity of the 123 in Catrine and Deanston; and it is to be regretted that the short period allowed to that extensive inquiry (two months) did not enable the commissioners to collect returns sufficiently extensive to give an average which might be depended upon. According to the experience of the 123 females, the fecundity of a female who has been in the marriage state sufficiently long for its complete developement is on the average very nearly 8.

As to the effect on the number of children resulting from the age at which the females married, the returns from Catrine showed that the greatest number of children was borne from women marrying at 18, and gradually decreased according to the advance in age of the mother, though not much so, for women of any age below 25; but women marrying after 30 had on the average considerably fewer children than women marrying ten years earlier. There were, however, individual exceptions.

cumstance, that a case was submitted by the Committee to Mr. Morgan, to determine the allowance that should be made on an assurance for each child produced from any marriage. He declared that 5*l.* a year might be given to each child. The very same case was submitted to Mr. Francis Bailey, and he answered, that 19*l.* 15*s.* a year might be allowed for each child.

We have now adverted to the chief subjects relative to population and the duration of life on which the Committee made inquiries. These subjects begin to excite some degree of interest, and we have been compelled to go over the whole very imperfectly, that we might not be too late to give whatever aid may be in our power to any discussions which might take place on the formation of more equitable provision against the contingencies of sickness and mortality amongst those classes who are yet sufficiently independent and virtuous to desire to live only on the fruits of their own honest industry. The evidence contained in both Reports is highly deserving perusal, as showing how much remains to be accomplished on almost every point. Dr. Mitchell's treatise comprises the substance of the information relative to the provisions against casualties of sickness and mortality, put into a shape to render it available to the labouring classes. He has interspersed the facts with useful suggestions, of which they stand in great need, for the most prudent investment of their money. It is well known that, hitherto, works on such subjects have in general been profitable nearly in the inverse proportion to their utility; and, therefore, when we find them written for the use of those classes, and published, as we learn this is, at the author's own expense, we are bound to hail them as the results of unusual benevolence.

Mr. Milne, who, since the days of Dr. Price, has written most extensively and ably on these subjects, in explaining to the Committee why he had not accomplished some investigations of scientific importance, made some observations which sufficiently account for the little progress made in this and several other departments of knowledge. He states :—

‘ Subjects founded on general calculations such as I have made require a great deal of attention; and when all that has been done, the author must publish them at his own expense, and I am satis-

fied they will never pay him interest on the money they cost to make them. What I have done, I have done with great ardour; but the sale of such works is so confined that it will not pay, and I do not think that a man's success in life is promoted by the publication of them. But I beg to make a further remark. Such calculations enable those who pay attention to them, to make estimates of the value of property depending upon the contingencies of human life; they consequently have occasionally cases laid before them, for which they receive fees, and those fees afford them some compensation for the trouble and time they expend upon them. But these societies, when they apply in that way, cannot afford to remunerate them, although there is a great deal more trouble than in other cases.'

These observations set forth a ground of extenuation applicable to the best of the practical men of science. We remember hearing, that on the occasion of a trial in the Court of King's Bench, when the case turned upon an important principle of medical science, which appeared to be unsettled in the minds of the most eminent medical men who were examined as witnesses, one of them was asked whether it was not extremely important to all sufferers by the malady, and to the public at large, that the principle in question should be settled? "True, it was so," replied the witness; "it was most important that it should be settled." "Then why," asked the counsel examining, "was it allowed to remain unsettled?" "Because there was no payment; there were no fees to be got as remuneration for the labour of settling it," was the reply of the medical professor, who might have retorted the question with relation to the opprobrious deficiencies in the whole field of the art and science of which his questioner was a professor. In this view even of their own interests we believe these practical men are to a considerable extent mistaken; for conspicuous improvements in practice leading to fame and profit can only be based on improvements on sound principle or on sound theory. But in many cases the toil of elaborating sound general principles, which can only be accomplished by careful examinations and inductions from particulars, is great, and the results are rarely appreciated with justice. The toil detracts from the reputation for attention to the arts and particulars of every-day routine, on which professional success mainly depends: it gains no fees; "success in life is not promoted" by it. The consequences of this neglect of sound

general principles are not presented to the attention of the classes possessing the means of employing their leisure in liberal pursuits, otherwise we might expect their cultivation ; for there is, perhaps, no other country in which such strong benevolent sympathies, or such ardent desires to render disinterested service to the labouring population within their immediate neighbourhoods, pervade the wealthier classes. The misdirection of these sympathies, and their operation in inconsiderate charities and the profuse expenditure of the poor's-rates, have formed the most potent means of retarding the improvement of the labouring population ; and it seems to us that the wealthy have yet to learn what are the means by which they may render the best services ; which means, we conceive, will be found to be, in acting with the labouring classes rather than for them ; in enabling them to act for themselves, by provident institutions, securely based on sound knowledge of the nature of that of which we have treated. The promotion of such knowledge appears to be the province of endowed public bodies, or of the government in cases beyond the reach of private individuals. But it has not hitherto been the habit of practical statesmen to take the initiative, in measures which are “abstract” from any clamour,—which yield no immediate popularity and appear singular or enthusiastic, and “are not called for” as conducive to any immediate party objects, and which present the difficulty of gaining over those numerous votes of the representatives of the ignorance and prejudices of the country. And where, for the advancement of knowledge, the government, has stepped out of what is called by men of routine, its direct way,—its steps have too frequently been in the way of needless profusion and mismanagement. Take for example the Record Commission, instituted, we suppose, for the promotion of historical knowledge. Half a million of money, probably, has been expended in printing and methodising the records, without having brought to light any entertaining facts worth a thousandth part of the sum expended, or having even rendered the records more accessible for the pursuit of whatever useful information they may contain. A small proportion of the money thus misapplied would, if well directed, have sufficed to obtain all the data desirable to be deduced from the past experience of the casualties of sickness

and mortality.* We venture to repeat that it behoves a government intent upon its higher duties, to set to the uninstructed multitude an example of forethought in searching out, pre-

* The Bill for the Registration of Marriages, Births, and Deaths, now pending, appears to us to have been "called for" in a narrow sectarian spirit, and to be opposed by several persons in a spirit even more narrow and bigoted. The business of a civil local registration for all the purposes to which it might be made subservient, will be found to be one of the highest importance, and to have been settled in a manner only excusable as the commencement of a change which the prevalent ignorance would not allow to be more comprehensive and complete. The representatives of the dissenting bodies and the high church party, to whom the discussion is given up, appear to assume that the business of the registration of the occurrence of certain facts,—is their business exclusively, and involved in their respective ceremonies; as if all religious ceremonies, even as essentials of contracts, or as the foundation of civil rights, might not have been kept perfectly distinct from the business of registration? The objects to be attained by registration, in the prevention of litigation by the pre-appointment of evidence, are but slightly adverted to, whilst the numerous and more important uses are entirely overlooked by both parties: namely,—the registration of the causes of disease, with a view to devising remedies;—the determination of the salubrity of places in different situations, with a view to individual settlements and public establishments;—the determination of comparative degrees of salubrity as between occupation and occupation in places differently circumstanced, in order that persons willing to engage in insalubrious occupations may be the more effectually enabled to obtain adequate provision for their sufferings in respect of health;—the collection of data for calculating the rate of mortality, and giving safety to the immense mass of property insured; enabling every one to employ his money to the most advantage, whether for his own benefit, or for the benefit of persons dear to him, and that without the impression of loss to any one else;—the obtainment of the means of ascertaining the progress of population at different periods, and under different circumstances; directing the attention of the government and the public to the extent and effects of calamities and casualties, and the prevention of undue interments, and concealed murder, or deaths from culpable heedlessness. Nor is any allusion made to the wants to be supplied by a system of local registration, for notarial and various judicial purposes, in the preservation of deeds and evidence of private and public contracts; with relation to which wants England is, of all European nations, barbarously deficient in due provision. The opponents of the measure are "content," as were the Russian apple-merchants, with their practice, and as wisely express their scorn of what they call philosophy. The preceding evidence with relation to the effects of various diets, indicating by an easy alteration the relief of thousands from the infliction of sickness, and the saving of deaths by the hundred, is but a fragment of the evidence which might be adduced of other important and extensive results, obtainable by means of sound information on such topics as those to which we have adverted. The Bill for the Registration of Births and Deaths, as originally proposed, provided a tolerably fair tentative machinery: with this exception, that the foundation of these registries was not made, as we think it should be, on certificates from the medical men who last attended the deceased; and, in the case of births, from the accoucheurs, midwives, or other persons who aid

paring, and enforcing all the various means which conduce to the exercise of the virtues of frugality and forethought in modes by which pain is to the greatest extent avoided and mitigated, and the sum of public enjoyment increased.

the deliveries ; the preparation and due depositing of such certificates entitling the medical practitioner to a small fee and the omission incurring a penalty, and the falsification subjecting the offender to heavy punishment as a serious crime. The parties thus preparing the certificates would thus be the principal witnesses in the nearest degree cognizant of the facts. A system of registration will scarcely be complete, which depends for the requisite information chiefly on the success of the registrars in seeking it out, or on the parties bringing it, even though the performance of the duty be enforced by a penalty. As a general rule, such duties may be expected to be the best performed by the persons who are accustomed to attend the most frequently to the class of events to which the duties relate. In cases of death, the relations of the deceased can scarcely be expected to attend to such incidents in the midst of calamity, and to them more important arrangements of private interest. Certificates by the medical attendants should not of course exclude professional care in the process of the registration of the more important medical facts. The efforts made by the contending parties to dispense with the machinery of the new unions will, we are apprehensive, be found to be wasteful and mischievous in their effects, as they are blind and bigoted in intention. But notwithstanding the defective state of the measure, we trust that the Registrar General will be enabled to obtain several of the important objects of a good registration.

THE END.

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